12051

M151 MUTT

David Doyle

In Action®

Squadron Signal® Publications

M151 MUTT

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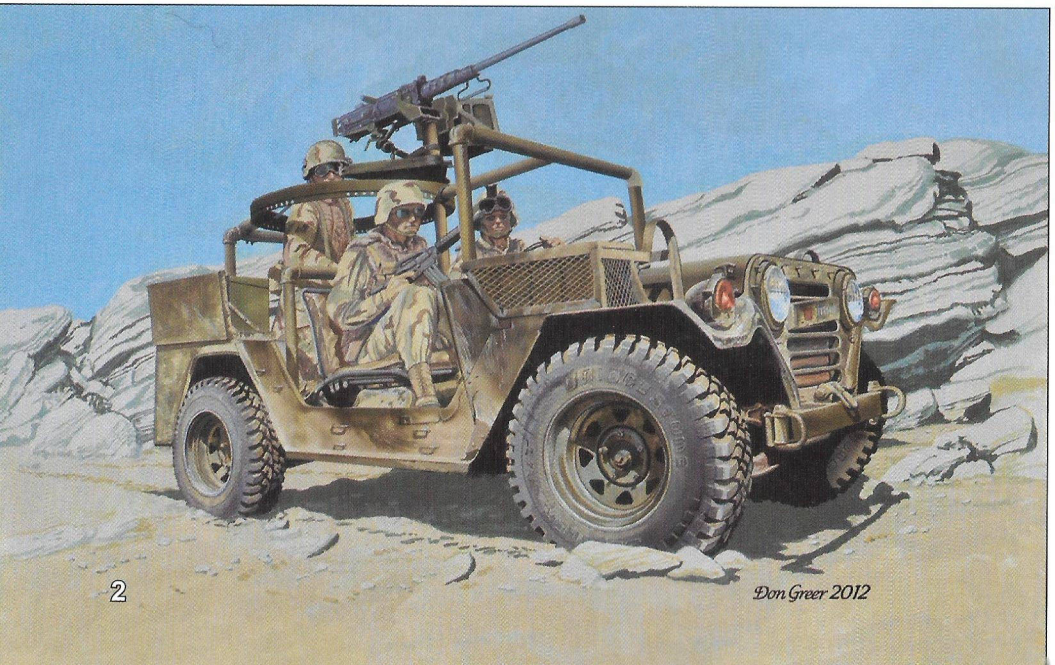
(Front Cover) ***Wolfman,*** **an M151A1 modified as an armored convoy escort vehicle, engages the enemy in Vietnam, indicative of the versatility of the diminutive MUTT.**

(Back Cover) An M-151 Fast Attack Vehicle FAV from B Co., Battalion Landing Team 1/8, 26th Marine Expeditionary Unit (Special Operations Capable) equipped with a .50-caliber M2 HB machine gun, provide security at the U.S. Embassy housing complex in Tirana, Albania, during Operation SILVER WAKE, 16 March 1997.



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(Title Page) The M151 was intended to be a lightweight, high-mobility replacement for the M38A1. Though the series' service life spanned more than 40 years and four manufacturers, it was also dogged by controversy. The vehicle shown here at Fort Bragg in September 1969 was produced by Ford on the second contract. (National Archives)

Acknowledgments

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M151 Development

Even before the end of the Second World War, the U.S. Army had created a series of committees to evaluate the equipment being used by U.S. forces in the field, including vehicles, with an eye toward improving and standardizing equipment. Among the recommendation were sealed electrical and ignition system, provision for rapid installation of deep water fording kits, standardized parts across multiple families of vehicles, improved flotation in muddy and sandy terrain, and a myriad of other tweaks that formed the basis for the post-World War II M-series vehicles.

In the ¼-ton range, of particular note was the 27 October 1944 recommendation of the Report of the Armored Equipment Board (Robinett Board) that future generations of ¼-ton vehicles feature independent suspensions. The War Department Equipment Board (Stillwell Board) on 13 December 1945, when discussing the ¼-ton truck, recommended lightening the vehicle and increasing tire size, both of which would increase mobility.

The immediate successor to the WWII-era MB and GPW Jeeps was the M38. In today's military parlance, this would likely be considered a "PIP," or Product Improvement Package, as at the core, little was changed between the MB/GPW and the M38. The M38A1, while incorporating a new engine and restyled body, nevertheless has a direct lineage to its WWII-era ancestors.

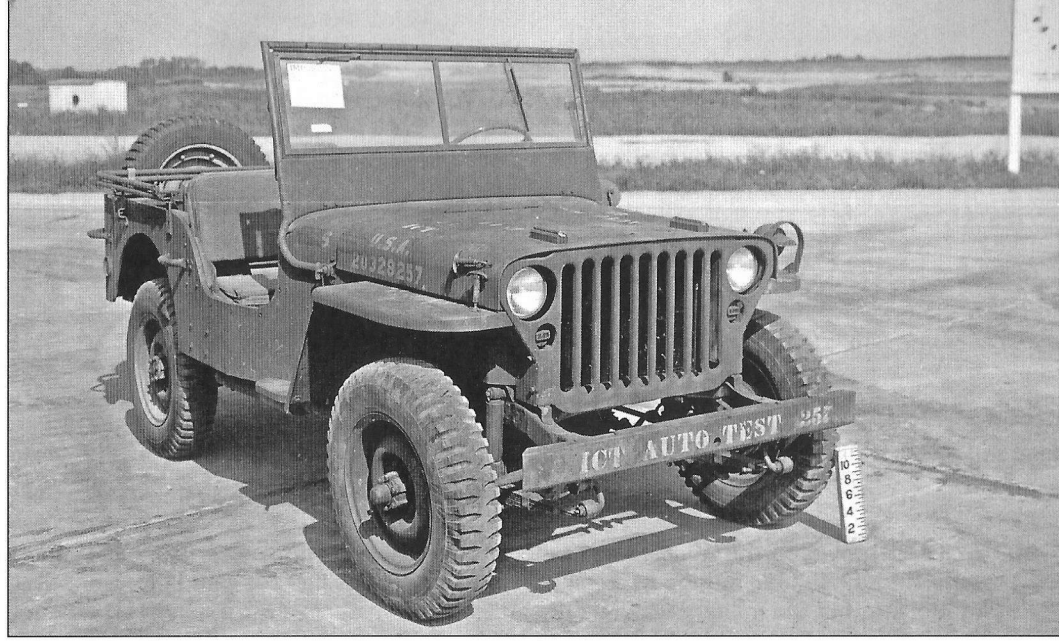
By 1950, however, the Army was ready for a new series of wheeled vehicles, starting from a clean slate, unencumbered by past practices, and incorporating as many features of the 1940s "dream lists" as practicable. With its relatively high use and short life, it is not surprising that attention quickly turned to the ¼-ton 4x4 truck range.

Hence, on 17 October 1950 a meeting was held at Detroit Arsenal to advise Ford that there would probably be $250,000 available by January 1951 with which to make a design study of a new, lightweight, ¼-ton vehicle. At this meeting also Col. Call, Col. Thorland and other members of the Detroit Arsenal staff outlined the basic specifications of the new vehicle to the representatives of the Ford Motor Company, including Dale Roeder.

Clarence Kramer, designer of the World War II GP, had at that time worked for Dale Roeder – so it is apparent that Mr. Roeder was familiar with the subject matter. As most readers will recognize, during WWII the standard Jeep was produced by both Willys (MB) and Ford (GPW).

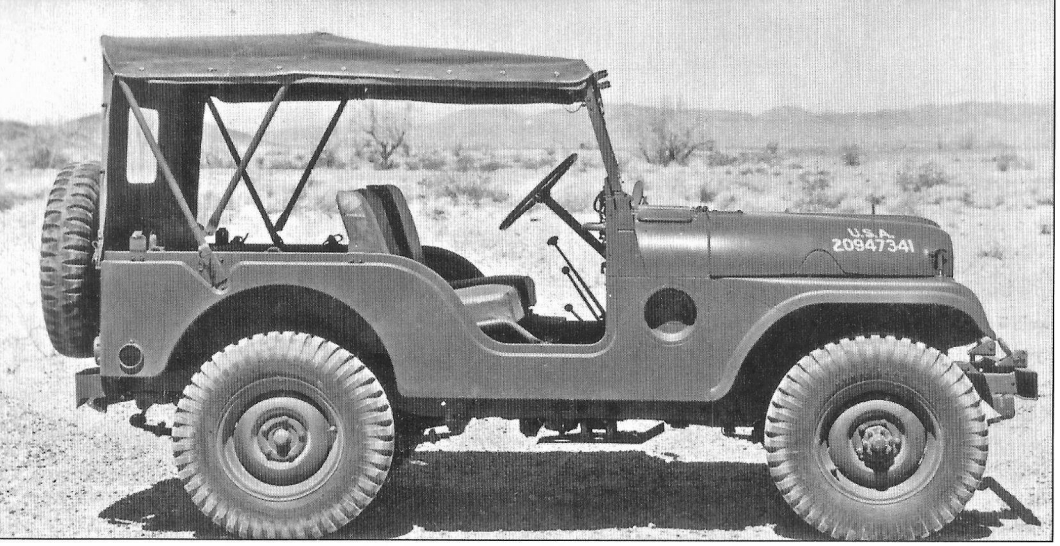
Among the items that Col. Call wanted considered in the new vehicle was light weight (2,000 pounds), independent suspension, consideration of air-cooled engines and automatic transmissions, semi-locking differentials, and the use of non-critical materials. Performance considerations were to include an 800-pound cross-country payload and a 1,500-pound cross-county towed load. These were increased to 1,200 and 2,000 pounds respectively when operating on road. The targeted range was to be 300 miles.

As had been foreseen by Col. Call, on 4 January 1951 Ordnance Committee Minutes 33521 initiated phase study one of a new ¼ton truck, to be designated T122. Ford was awarded contract DA-20-18-ORD-11283, in the amount of $175,000, to carry out this study. Ordnance Committee Minutes 33625 15 March 1951, assigned 'Military



The ubiquitous standardized WWII jeep, as built by Willys (the model MB) or Ford (model GPW) served well, and was well-liked by servicemen. However, many felt it was overweight and underpowered. (TACOM LCMC History Office)

By the late 1940s, the U.S. military had decided to adopt as standard 24-volt electrical systems, sealed ignition system and integral provisions for fording. Willys filled these requirements with a new version of the Jeep, the model MC, known to the military as the M38. Its lineage is immediately apparent. (TACOM LCMC History Office)



Still underpowered, the vehicle was further improved with a more powerful F-head engine replacing the L-head engine used on previous models. Willys assigned the vehicle the model MD, but the military viewed only as an improvement of the existent M38, hence designated it M38A1. Still, it was felt the vehicle was too heavy, and more power was needed, and perhaps an independent suspension system would improve mobility, so work continued. (Patton Museum)

Characteristics of Vehicles' (MCV) 223 to the new project in lieu of the previously used MCV 201, which had been assigned in error. Then, Ordnance Committee Minutes 33850 shortly thereafter replaced the designation T122 with XM151.

In the course of the XM151 program, Ford received four M38A1 Jeeps from the army for comparative tests. The first two were for disassembly and test purposes and were to be returned to the army in operating condition. The second two M38A1s were bought by Detroit Arsenal specifically for this program, and Ford was allowed to test these to destruction.

Two different vehicle designs (but not actual vehicles) resulted from this study. The study results were delivered by Ford to the Army in January 1951. Design I featured conventional solid axles, separate frame and semi-elliptic spring suspension, while Design II had independent suspension. This design also featured a unitized body and frame, and coil spring suspension. The Army selected Design II for further examination.

On 30 June 1952 contract DA-20-018-ORD-12584 was awarded to Ford. This contract called for the delivery of five prototype vehicles. A 17 April 1953 supplement increased this number to six vehicles. These quantities have since caused confusion with current-day enthusiasts, as we shall see. In order to carry out this work, the Ordnance Vehicle Project of the Ford Division was created 1 August 1952. This small operation (typically about 60 employees) operated out of leased facilities at 6510 West Warren Ave, Detroit.

By October of 1952, a wooden mockup of the new vehicle was 80% complete and a 3/8 scale plastic model was in use by the body and drivetrain design team. The power plant of the new vehicle was also new, and created specifically for the XM151. The first engine was completed on 25 April 1953 and testing on it began immediately. It, as well as later test engines, suffered crankshaft failures, causing ongoing refinements in the design.

In July 1953 two preliminary test vehicles were completed by Ford. These vehicles were never delivered to the army, nor were they assigned registration numbers. Rather, these were Ford vehicles that were used for further development, as was a third prototype vehicle completed a short time later. These vehicles can be distinguished in photographs by the "XM-151-1," "XM-151-2," and "XM-151-3" lettering on the hood sides in the space usually used by U.S. Army registration numbers. Although these vehicles were not delivered TO the army, there was a great deal of cooperation between Ford and the Army on the development of the new vehicle.

Following a 7,000-mile endurance test the body of test vehicle number 1 was replaced with another that had been originally built for structure tests. As of September 1955 this vehicle was at Ford being cannibalized for parts to maintain the rest of the XM151 fleet.

Test vehicle number two began testing at Aberdeen Proving Ground on 16 February 1954, under the most severe of conditions. Feedback was provided to the Ordnance Vehicle Project engineers in Detroit on a regular basis, and corrective measures for defects incorporated in the design refinements.

Test vehicle number 3 was used in a 10,000-mile comparison test against a M38A1. By 1 April 1955 this vehicle had been scrapped, with usable parts reconditioned to maintain the other XM151 trucks.

On 30 April 1954 XM151 number four was completed. Although this was the first XM151 actually delivered to the Army, and assigned registration number USA-201026554, it was loaned to Ford by the Army for demonstration and test purposes. It was used extensively at Modine Manufacturing in Racine, Wisconsin, to test various radiator and cooling configurations for the M151, and in October 1955 it was equipped with simulated outside brakes for testing.

In June 1954 the balance of the six final prototypes to be delivered to the Army had been completed. The first of these, XM151-5, registration number USA-201026555 was shipped early, on 10 June 1954, to the Desert Proving Ground in Yuma so as to begin summer testing as early as possible. The remaining vehicles, with sequential registration numbers, were shipped to Aberdeen Proving Ground on 30 June 1954. Its task completed, Ford's Ordnance Vehicle Project team was deactivated on 31 July 1954. From Aberdeen, numbers seven and nine went on to Fort Knox. Incidentally, XM-151-8 was damaged in a roll-over accident at Aberdeen Proving Ground – a fate not unique to this vehicle.

In accordance with an agreement between Ford and the Ordnance Corps, the XM151 project was announced to the public for the first time on 9 September 1954. Naturally, it was hailed at the time as revolutionary, which in fact by Detroit standards it was.

Based on the feedback from the extensive testing to which the vehicles were subjected, several design changes were initiated. A June 1955 redesign of the body lowered the front compartment and floor, while increasing ground clearance and headroom. But these changes were confined to paper and mock-up, since at that time there was no actual contract in place, calling for the creation of an actual operating vehicle incorporating

these improvements.

It was also in 1955 that Kaiser became involved – but not the Kaiser-Jeep Corporation, but rather the Kaiser Aluminum Corporation. In April a study had begun on producing an aluminum-bodied M151, in an effort to reduce the vehicle's weight.

In late March 1956 a new contract was pending for further work on the XM151. This contract called for the production of two XM151E1 and two XM151E2 vehicles.

The XM151E1 would feature a new front suspension and drive train as well as the newly revised body, rendered in steel.

The XM151E2 would be identical, except that the vehicle's body would be made of aluminum of the same gauge as the steel. At the time of signing, Ford estimated that its loss on this project would be $50,000 – an acceptable amount given the experience that the company would gain in designing and manufacturing unibody vehicles of both aluminum and steel.

However, the production of the aluminum bodies did not go as smoothly as anticipated. First, there were the many minor redesigns to prevent stress fractures in the stamping process, as well as the enormous cost of modifying the dies repeatedly after trial parts runs with the aluminum. After extensive delays, satisfactory parts were finally produced, after which a means of spot welding the aluminum had to be devised.

In large part due to these problems, on 31 January 1957 Ford Vice-president Robert S. McNamara (later president of Ford for eight weeks, before resigning to become U.S. Secretary of Defense) issued a memo concerning the $538,000 loss that had been incurred to that point while fulfilling a $1.09 million contract!

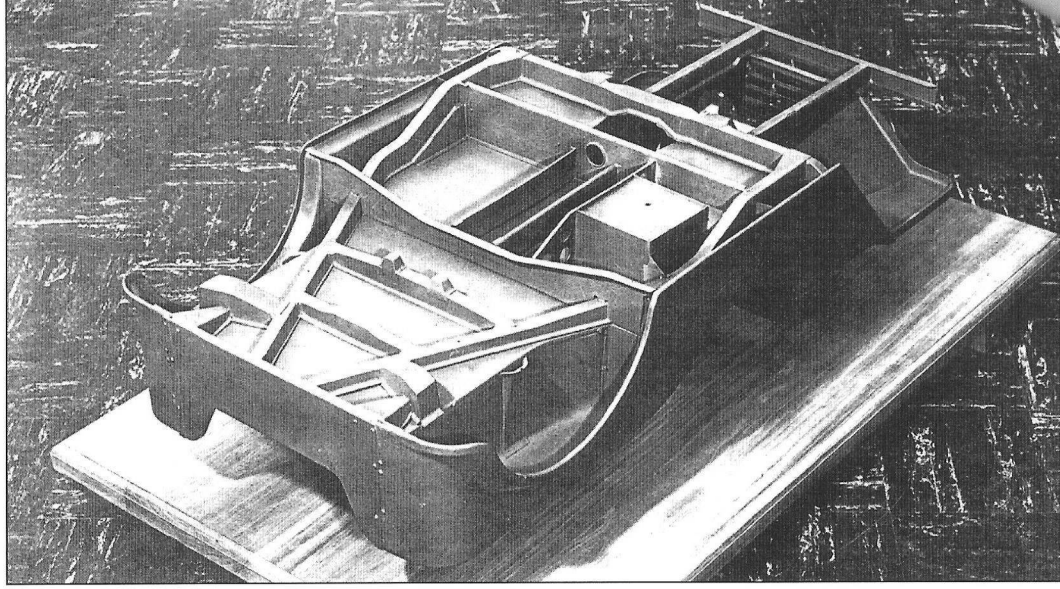
Ultimately, the 10th XM151 – XM151E1-10 assigned registration number 2B4764, was completed and shipped to Aberdeen Proving Ground on 25 January 1957. It was followed by XM151E1-11 on 7 February 1957, which was shipped to the Detroit Arsenal.

The first of the aluminum-bodied vehicles, XM151E2-1, registration number 2B4766 is recorded as being tested in Dearborn in May of 1957 before being shipped to Yuma in July before going to Fort Knox in August.

A press release on 23 April 1957 heralded the amazing aluminum-bodied vehicle, but glossed over the great difficulties in producing the machine. The second aluminum vehicle (2B4767) was tested at Aberdeen Proving Ground in July 1957, and on 12 November 1957 Ford was authorized to salvage parts of this vehicle, including cutting out sections of the body, for use in the XM408 ¾ ton 6x6 project. However, the XM408 project would quickly abandon the idea of using aluminum bodies as well.

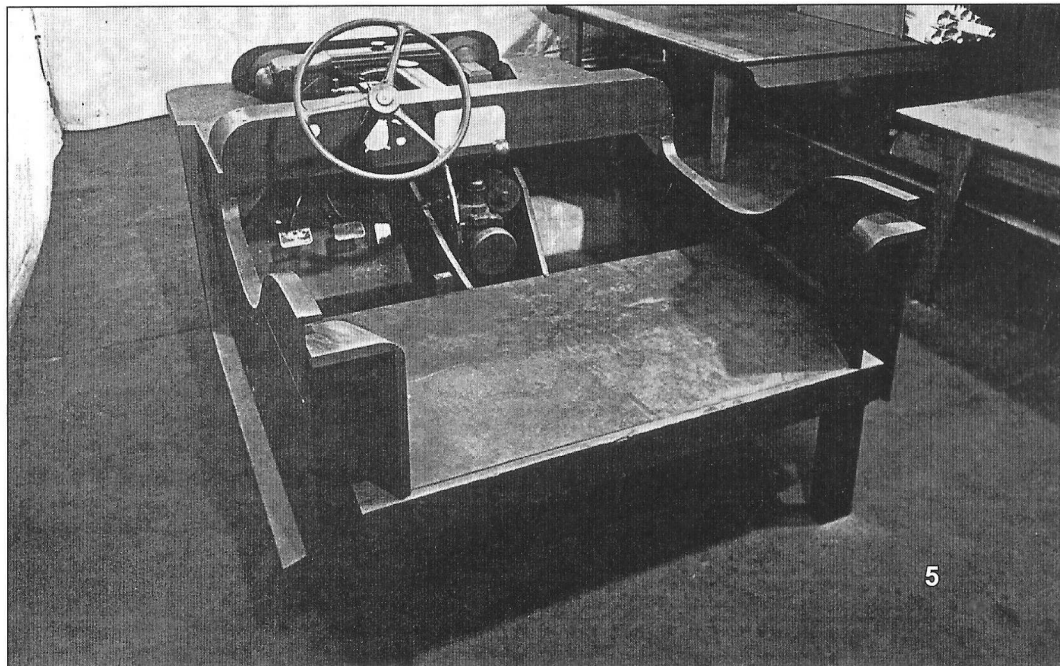
After further testing, the M151 was standardized in 1958, and on 25 June 1959 the first production contract, DA-20-018-ORD-21125, was awarded. Ford was the successful bidder on this contract for 4,050 vehicles, and deliveries were scheduled to begin in March 1960.

In the succeeding years, the M151 family continued to go through a design evolution, and a series of manufacturers, ultimately remaining in production for over 20 years, and in service with the U.S. military for over 40 years – far longer than its predecessors, the MB/GPW, M38 and M38A1.

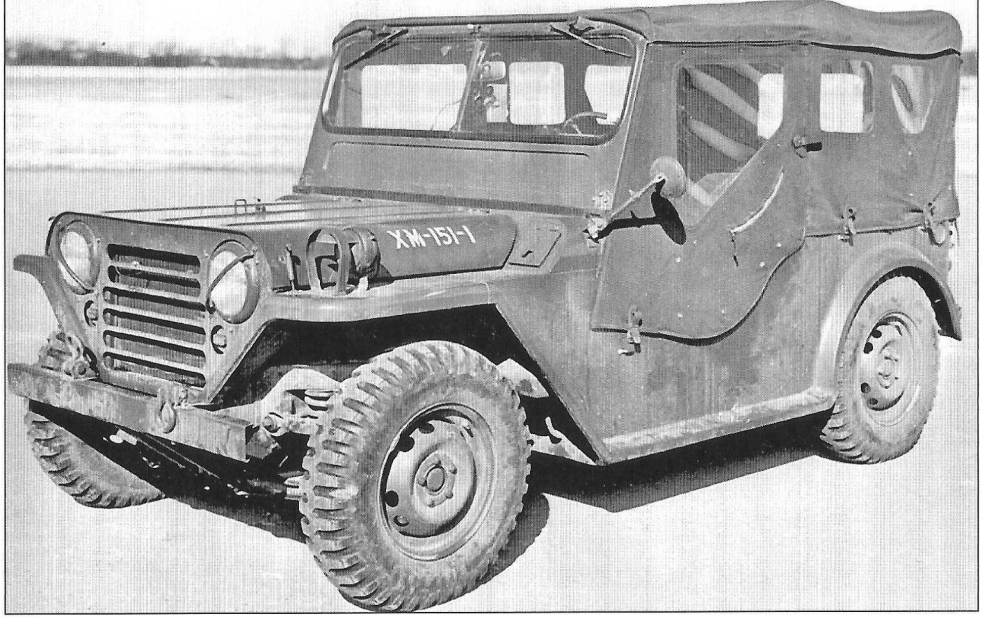


Ford, at the army's request, offered two new designs. Design I was a conventional layout, while Design II incorporated independent suspension and unibody construction. Once Design II had been chosen, draftsmen began rendering detailed drawings, and this 3/8 scale plastic model was produced in order to better work out fit and clearance issues. Changes thus made were then incorporated into revised drawings. (Jim Gilmore collection)

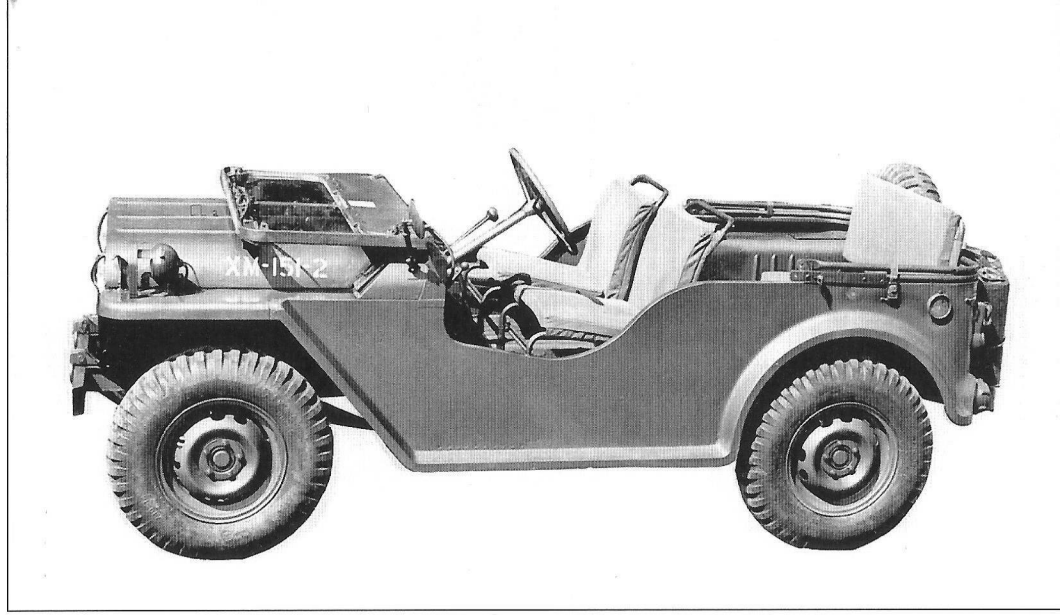
Also created was this full-size wooden mockup of the forward portion of the vehicle. Such tools were standard practice in the automotive industry in order to confirm design details before work began on the comparatively expensive metal prototypes. (Jim Gilmore collection)



Once the design of the prototype was finalized, Ford built nine prototype vehicles, in two groups. The first group of three vehicles were Ford, rather than government, property. This is the fifth prototype vehicle, and the second machine to become government property. Notice the location of the fuel filler, opposite the side upon which it would ultimately be located. During the 1950s, the army had pushed for fuel filler locations on the passenger side of vehicles, believing this would result in safer roadside refueling. However, other design factors ultimately prevented this practice becoming universal. ((National Archives)

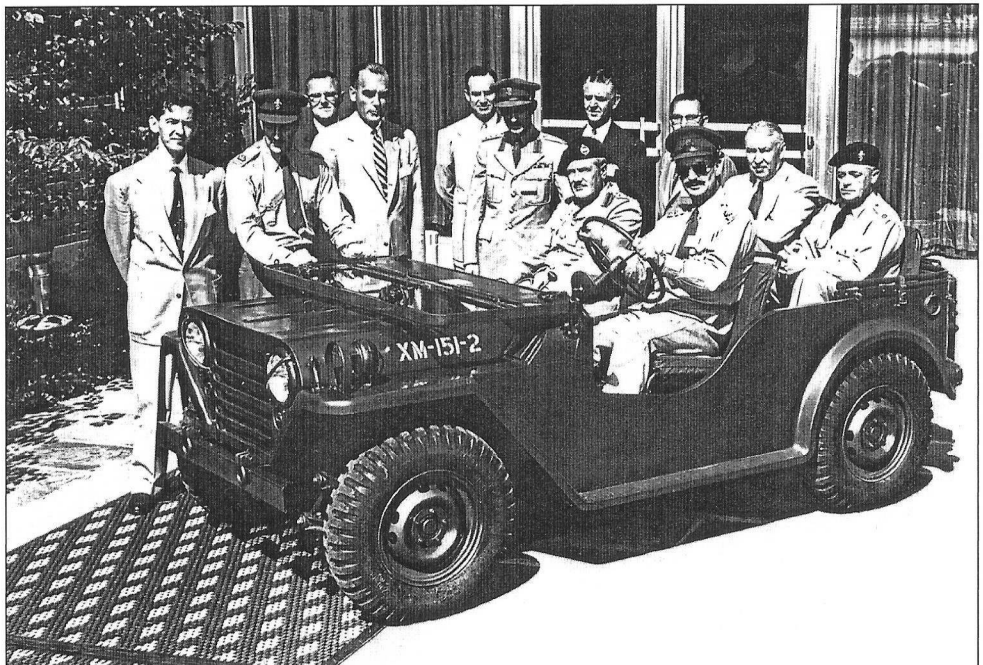


This is the very first XM151, XM-151-1, which although given basic testing at government facilities, remained property of Ford Motor Company. With the canvas top erected as here, the differences between the nine preliminary pilots and the later production vehicles were much less evident. (TACOM LCMC History Office)

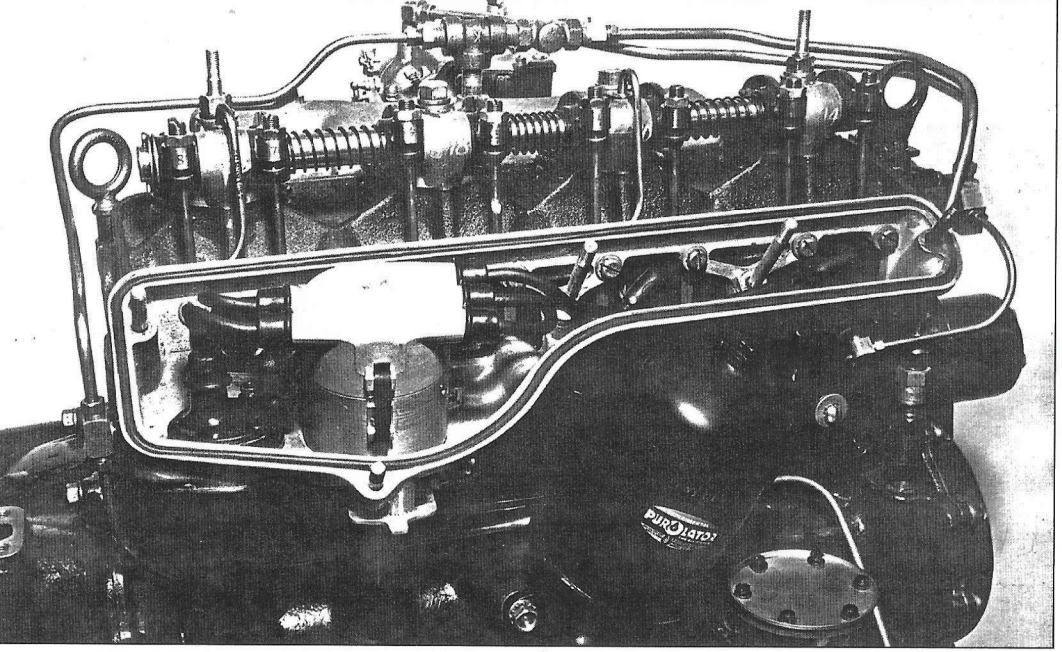


This is the second XM151 prototype, which like the other early vehicles had a much less pronounced 'doorway' than did the later production vehicles. This particular vehicle, although remaining Ford property, underwent testing at Aberdeen Proving Ground and by April 1955 was back at Ford. (TACOM LCMC History Office)

XM-151-2 was also demonstrated to representatives of the Canadian and British armed forces, who were photographed with the vehicle in August of 1953. Seated in the vehicle are, left to right, Brig. John French, Director, Technical Services (Land); Lt. Col A.D. Nelson; M.C. Morrison and Major I.T. Burke, British Liaison Officer. (Jim Gilmore collection)



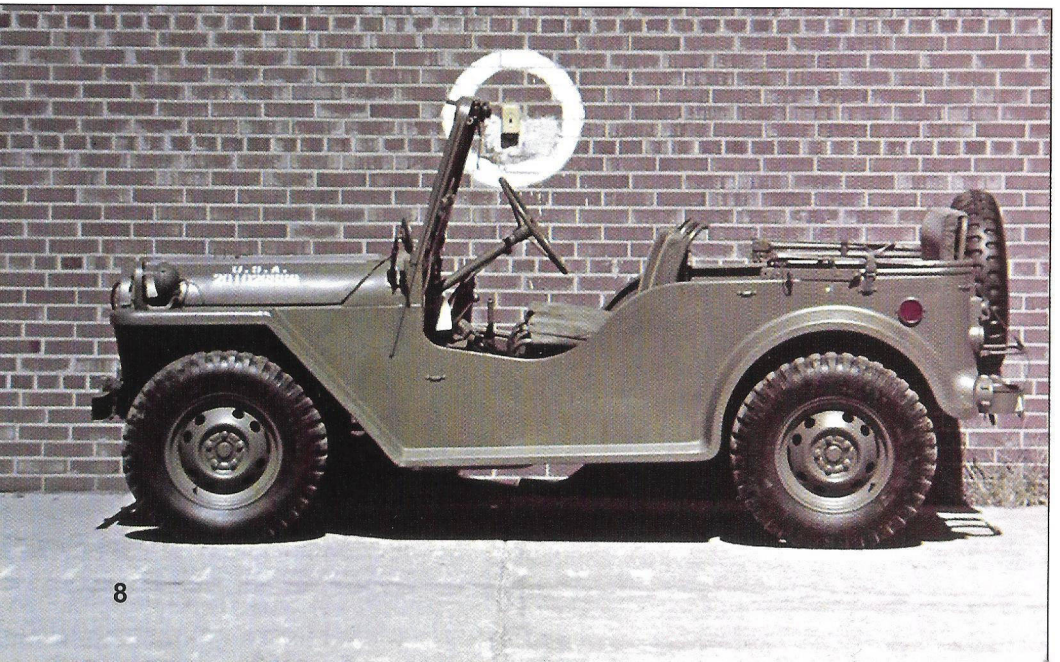
The XM151 was not the only effort to create a highly maneuverable, lightweight, ¼ ton vehicle. The Mighty-Mite, seen here in the basic M422 form, was also tested, and though not accepted by the army, saw wide use by the Marine Corps. The Mighty-Mite featured an aluminum body, an aluminum V-4 air-cooled engine and locking differentials, as well as independent suspension and differential-mounted brakes. (Patton Museum)



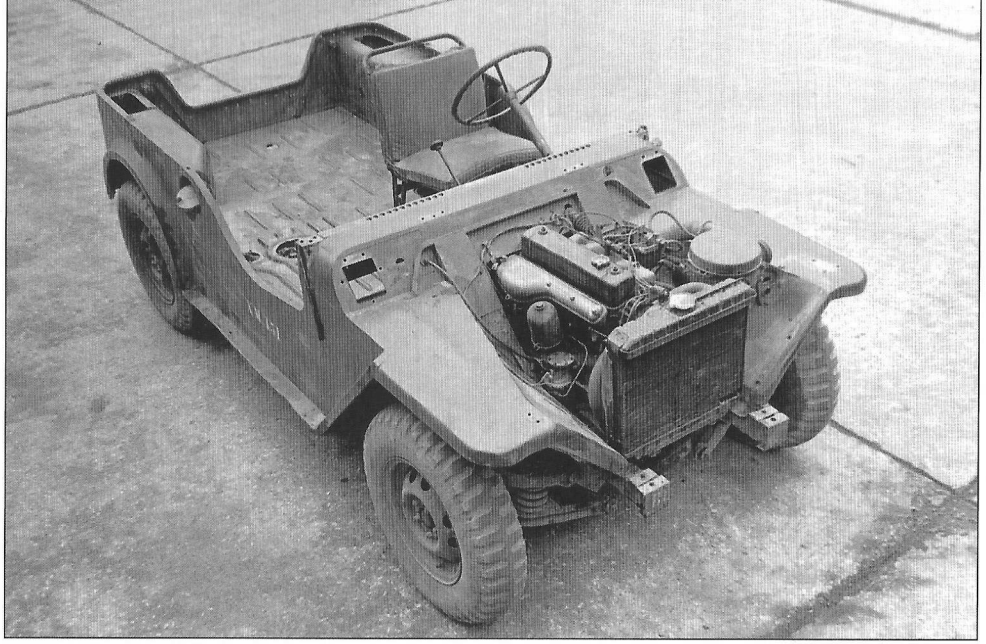
Despite the urban myth to the contrary, the engine of the M151 was designed by Ford, and Ford produced the engines in the prototypes. These underwent a series of changes, with the engines undergoing many tests before one was ever fitted to a vehicle. Shown here is one of the early XM151 engines. (Jim Gilmore collection)

The ninth and final first-generation prototype of the XM151 is seen during its evaluation at Fort Knox, Kentucky. This particular vehicle was also driven to the Yuma Proving Ground, tested there, and was then driven back to Fort Knox. (Kevin Emdee collection)

The first nine XM151 vehicles assembled, six of which, including this one, were delivered to the U.S. Army, were markedly different from their successors. The door cut out and body flares differences are readily apparent – less visible is the completely different front compartment floor and front suspension. (Kevin Emdee collection)



The fourth XM151 prototype, and the first to actually be delivered to the military, was long believed to have been scrapped in March 1957 – as records indicate. The historic military vehicle community was astounded when it surfaced in "barn find" condition at the 2011 international convention of the Military Vehicle Preservation Association. (Photo by author)



This photograph of a partially dismantled XM151 shows the covered ignition harness that characterized the XM151 engine. Also clearly visible is the unitized body and frame, which, along with independent suspension, were the hallmarks of the design. This photograph was probably taken during the creation of the "Corky" amphibious M151 prototype. (Kevin Emdee collection)

"Corky," an amphibian prototype, was created from one of the XM151 prototypes, and took advantage of the vehicle's light weight and unibody construction Propulsion was via the spinning wheels. (Kevin Emdee collection)

Following tests of the initial prototypes, four follow-on prototypes were ordered, of two types, the XM151E1 and the XM151E2. The latter differed from the former by having a body made entirely of aluminum. (Kevin Emdee collection)

The second XM151E1 underwent testing in Yuma, as well as at Fort Knox, where this photo was taken. During a drive from Yuma, Arizona, to Fort Knox, the rear differential failed, and the balance of the trip was made driving through the front differential. The vehicle was tested at Fort Knox, where this photo was taken, but the design did not advance beyond trials. (Kevin Emdee collection)

This is the second production M151 to roll off of the Ford assembly line. This vehicle was dispatched to Aberdeen Proving Ground, where it underwent evaluation. Notice the wheels of this vehicle have lightening slots, rather than holes, characteristic of the early production vehicles magnesium wheels. (TACOM LCMC History Office)

Further testing was done, and on 25 June 1959, almost nine years after the concept was floated with Ford, the first production contract, for 4,050 vehicles, was awarded. This was contract number DA-20-018-ORD-21125. The vehicle manufacturer's serial number was also the army registration number, and spanned the range 2B6487 through 2B9999 and 2C0001 through 2C0537.

While like its predecessors, the M151 had the military standard 24-volt electrical system, and selective two- and four-wheel drive, there were some significant differences. The M151 used an unibody design, lacking a separate frame, the suspension was all-around independent, and the transfer case was a single speed unit. The transmission was a four-speed version (unlike the MB/GPW/M38/M38A1 which all had three speed transmission). The M151's first and reverse gears were sufficiently low to negate the need for a separate low transfer range.

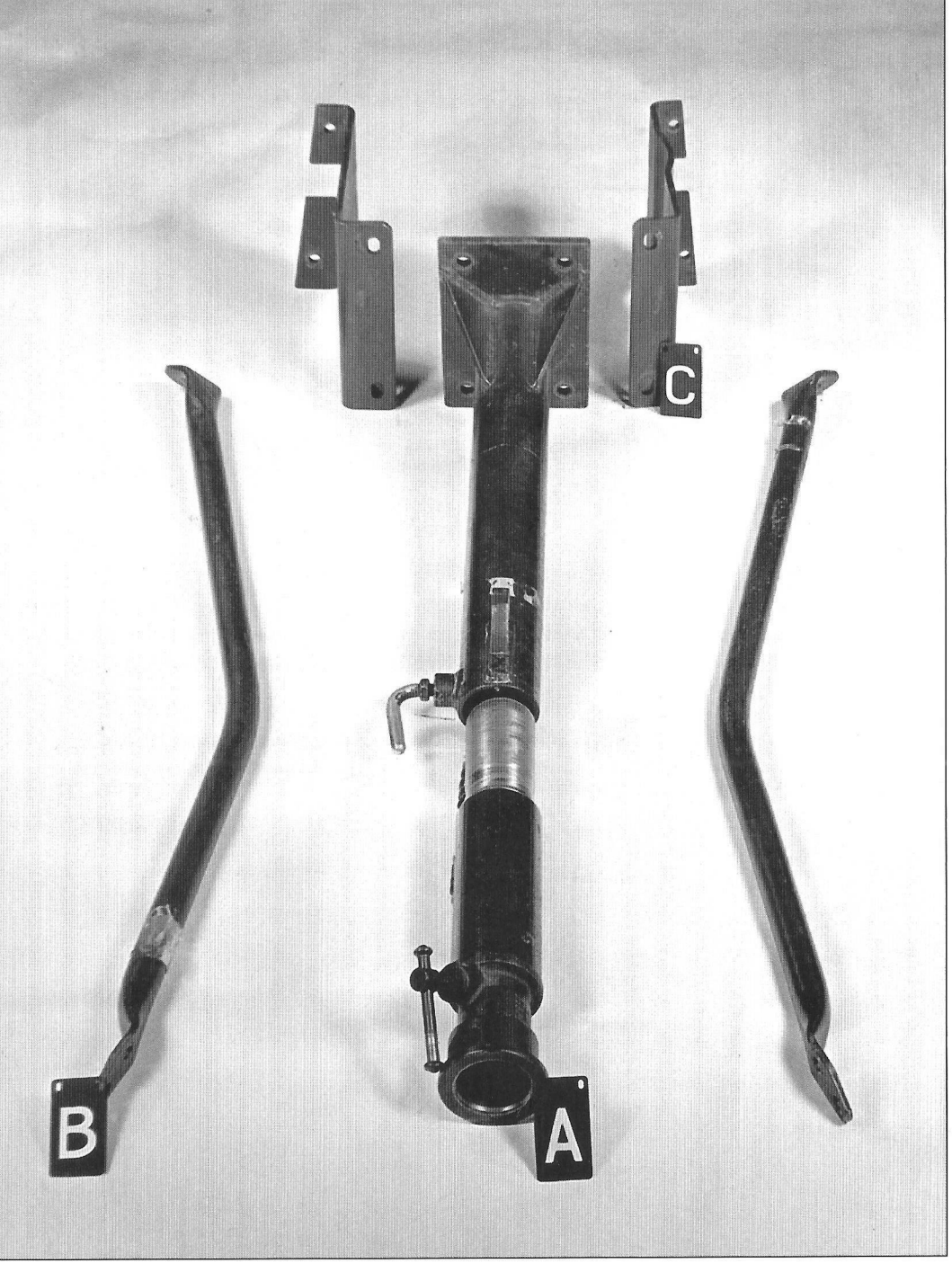
The initial contract was followed two years later by another contract for 13,124 of the little trucks. This was contract DA-20-018-ORD-23240. Delivery of the vehicles of the first contract was scheduled by Ford to begin in March 1960. These vehicles were designated M151 and were produced at Ford's Livionia, Michigan facility.

A new contract, DA-20-019-ORD-3941, was awarded in May of 1962, with Willys Motors winning this contract. This contract called for the production of 14,625 of the M151 trucks. A second contract, DA-20-113-AMC-0846 (T), was won in December of that year for a further 9883 units. The second contract for M151 vehicles was modified after award to reflect the introduction of a new model, the M151A1. Of note, despite Willys/Kaiser-Jeep building these vehicles, Ford remained the lead design agency.

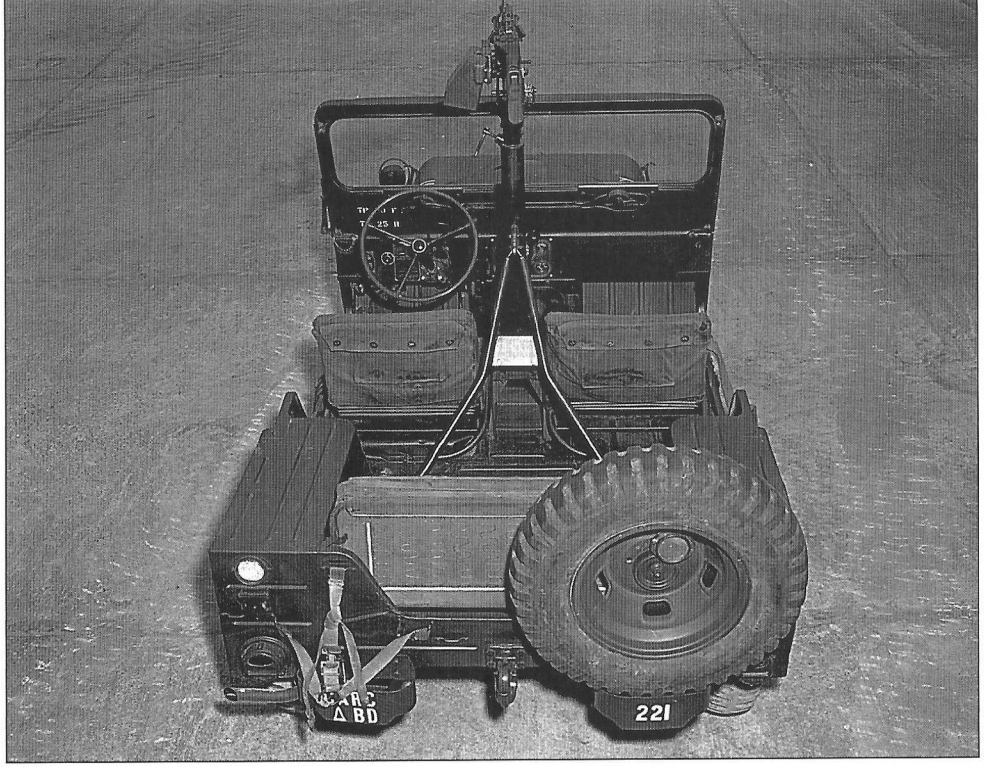
Deliveries of mass-produced M151 vehicles began in 1960, and the tenth production vehicle, shown here, was sent to Fort Knox, Kentucky for Initial Production Test evaluation. (Kevin Emdee collection)

Another of the first ten production vehicles was posed for this photo at Fort Knox, next to its predecessor, the M38A1. The lower stance of the M151 is evident. (Kevin Emdee collection)

Machine gun mounting for the M151 initially consisted of the Browning M1919A4, as shown here. With the radio set (on left rear fender), machine gun and crew, the vehicle was filled! (Kevin Emdee collection)

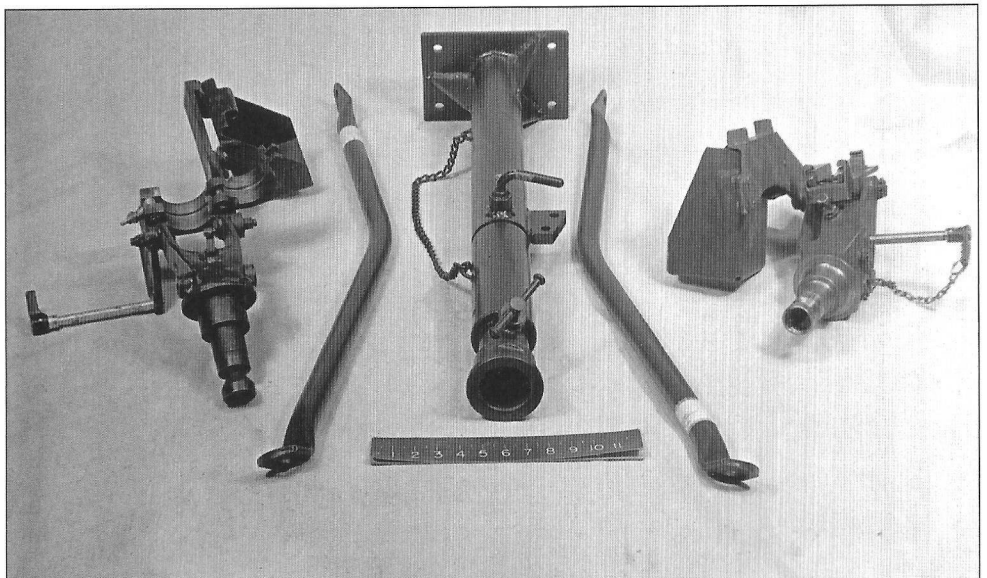


The M4 pedestal mount was developed for use on the M151 MUTT, and its components are displayed in this photograph. It consists of the pedestal with socket to the top (A), two braces (B), and a two-piece base assembly (C). (Kevin Emdee collection)

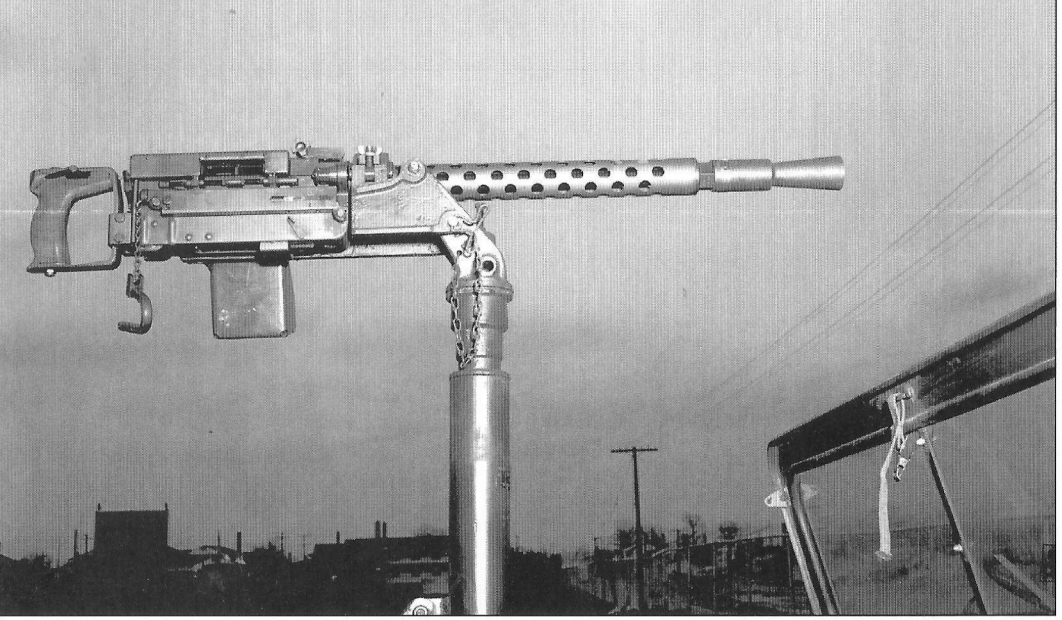


The pedestal mount on a MUTT is viewed from the rear. To the left of the machine gun is a tray for an ammunition box. On the left rear of the vehicle are the webbing straps used to secure a liquid container; the bottom of the container rested on the bumperette. (Patton Museum)

In this view of the M4 mount, the two-piece base assembly is not shown, but two cradles, (thus allowing top and bottom view), each designed to hold the M60 machine gun, are presented.



A soldier mans an M60 machine gun on a pedestal mount on an M151. The vehicle's registration number, 2B6517, identifies it as part of the first production block of M151s, produced under contract DA-20-18-ORD 21125 dated 25 June 1959. First deliveries of this block were in March 1960. (Kevin Emdee collection)



An M73C 7.62mm machine gun is fitted to the pedestal mount of a MUTT. Initially developed as the M73 machine gun for use in tanks, the M73C was a modified version with a grip and sights. It retained the M73's pull-chain charger, seen under the receiver. (Patton Museum)

As the M151 was coming into service, so was a new machine gun, the M60. The combination of M60 mounted on M151 would see widespread service around the world in decades following this second contract vehicle being photographed. (Patton Museum)

M151 registration number 2B6517 is shown from the right side, tires muddied. The sergeant in the front passenger's seat clutches an unloaded M1 carbine. The soldier in the back seat is ready to man the M60 machine gun if needed. (Kevin Emdee collection)

A MUTT equipped with a pedestal mount for a machine gun is viewed from the rear during testing for the Armored Board. The "CARC" stenciled on the bumper refers to Continental Army Command. Note the exposed springs in the rear seat back. (Patton Museum)

General Data

MODEL	M151	M151A1C	M825	M718
GROSS WEIGHT	2,140 lbs	3,340 lbs	4,590 lbs	3,680 lbs
LENGTH	132.7 inches	143.5 inches	143.5 inches	150.7 inches
WIDTH	64 inches	76.5 inches	76.5 inches	72 inches
HEIGHT	71 inches	77.2 inches	77.2 inches	76.3 inches
TIRE SIZE	7.00-16	7.00-16	7.00-16	7.00-16
MAXIMUM SPEED	66 MPH	50 MPH	66 MPH	66 MPH
FUEL CAPACITY	17.3 gallons	17.3 gallons	17.3 gallons	17.3 gallons
RANGE	300 miles	275 miles	275 miles	300 miles
TRANSMISSION SPEEDS	4	4	4	4
TURNING RADIUS	17.9 R, 17.8 L	18.5 feet	18.5 feet	18.5 feet

ENGINE DATA

NUMBER OF CYLINDERS	4
CUBIC INCH DISPLACEMENT	141.5
HORSEPOWER	71 @ 3800
TORQUE	128 @ 1800

Typical of the U.S. Army's quarter-ton trucks, the windshield of the M151 would fold down onto the hood, lowering the vehicle's overall height for shipping, and reducing tell-tale glare in certain situations. The brackets visible below the driver's opening are for stowage of an axe. (Kevin Emdee collection)

Ford-built M151 registration number 2B6517 is shown without passengers. This photo emphasizes a design feature that differentiated the M151-family vehicles from earlier military Jeeps: the hood was narrower than the cowl. (Kevin Emdee collection)

The same M151 MUTT is shown from another angle with a complement of three soldiers, crossing a dusty field. The bow for the removable canvas cover is folded at the rear of the passengers' compartment, and the windshield is lowered. (Kevin Emdee collection)

Ford was not alone in producing the MUTT – in May of 1962 Willys Motors was awarded a contract to produce the vehicles, as was a second contract in December of that year. This vehicle photographed in Vietnam was produced under the second Willys contract, although by the time it rolled off of the assembly line, the firm was known as Kaiser-Jeep. (National Archives)

The serial number on the MUTT in this photo, 2J7111, identifies it as part of contract DA-20-113-AMC 02787 (T). The registration number was identical to the vehicle's serial number. A shovel is secured with webbing straps to the body. (Kevin Emdee collection)

Work on the first M151A1s began at Ford's Highland Park tractor plant in November 1964 and continued until 1969. Note the khaki seat covers, the axe strapped to the side of the body next to the driver's seat, and the pedestal at the rear of the body for the antenna. (Kevin Emdee collection)

This M151A1 was produced under Ford's first multi-year production contract for the MUTT, number DA-20-113-AMC 02787 (T), and was photographed while serving as a test vehicle. It is equipped with a radio set and a pedestal mount for a machine gun. (Kevin Emdee collection)

Because of problems with the rear suspension, which buckled or collapsed, particularly when burdened with mounted weapons and cargo, the rear suspension system was redesigned. High-strength rear suspension arms, with extra bump-stops, were introduced. In December 1963 production of the M151A1 began by Kaiser-Jeep, as Willys Motors had become in March of the same year.

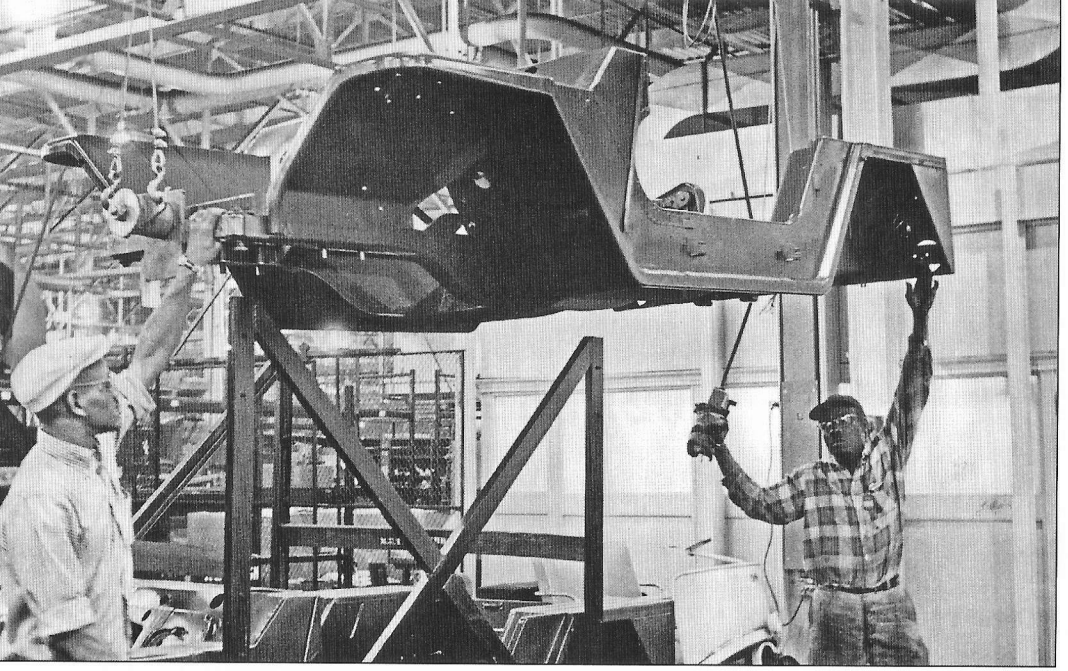
On 16 February 1964 Ford was awarded the first multi-year production contract (DA-20-113-AMC 02787 [T]) for the MUTT. The multi-year nature of the bid solicitation made MUTT production much more appealing to Ford than had been the single-year procurements previously made. However, even with that, the bid had been placed over the protestations of Ford's automobile and truck divisions, who feared taxing their ability to meet their civilian market goals by adding this pure-military vehicle to their production requirements. Hence, the task of constructing these vehicles fell to the Industrial Division. Ford M151A1 production began at the Highland Park tractor plant during November/December 1964, and continued into 1969.

However, the army as well as other agencies was becoming increasingly concerned about the operation of the M151 and M151A1. Numerous accidents occurred right from the introduction of the M151. The Military invariably blamed "driver error," but as the accident reports began to pile up, it became evident that there was something inherently wrong with the performance of the vehicle. On 1 November 1961, Frank J. Becker, a Congressional Representative from New York wrote a letter to Robert S. McNamara, the Secretary of Defense (who had formerly been with the Ford Motor Company), raising the question of the M151's stability, which had been brought to the Congressman's attention during a visit to troops in Europe. Meeting silence, the Congressman sent a second, more forceful letter two weeks later. This inquiry set in motion not only an investigation, but also one more redesign of the vehicle. In time, these safety concerns would prevent these vehicles from being sold on the surplus market at the end of their service life after only a few examples had been released. Ultimately, a solution to the handling problem would take far longer to put in place than anyone might have expected.

The root cause of the problem was the fact that handling qualities of vehicles with independent suspension was much different than those of anything else in the army tactical vehicle fleet, or that soldiers had become accustomed to in civilian life. The vehicle 'felt' stable right up to the point of roll-over during cornering. Further, the bulk of the initial testing of the M151 design had been done with fully laden test vehicles, as was standard practice. When fully loaded, the M151 was much less likely to roll, thus the severity of the problem was masked until the vehicle was fielded.

Reportedly, in fiscal 1967 the M151 was involved in 3,538 accidents that resulted in 104 deaths and 1,858 injuries. The lack of body roll when turning and a severe oversteer condition, both of which were inherent with the rear "swing-arm" system of suspension, caused many inattentive drivers to lose control of their vehicle. The Army introduced training courses, training films, DA circulars and even insisted that no one drove the M151-series unless his/her SF-46 (Driving Permit) had been endorsed as permitted to drive the MUTT. In spite of all these efforts, the accidents continued. A solution was sought that would resolve this issue, while still maintaining a high degree of parts commonality with the M151 and M151A1 vehicles in army stocks.

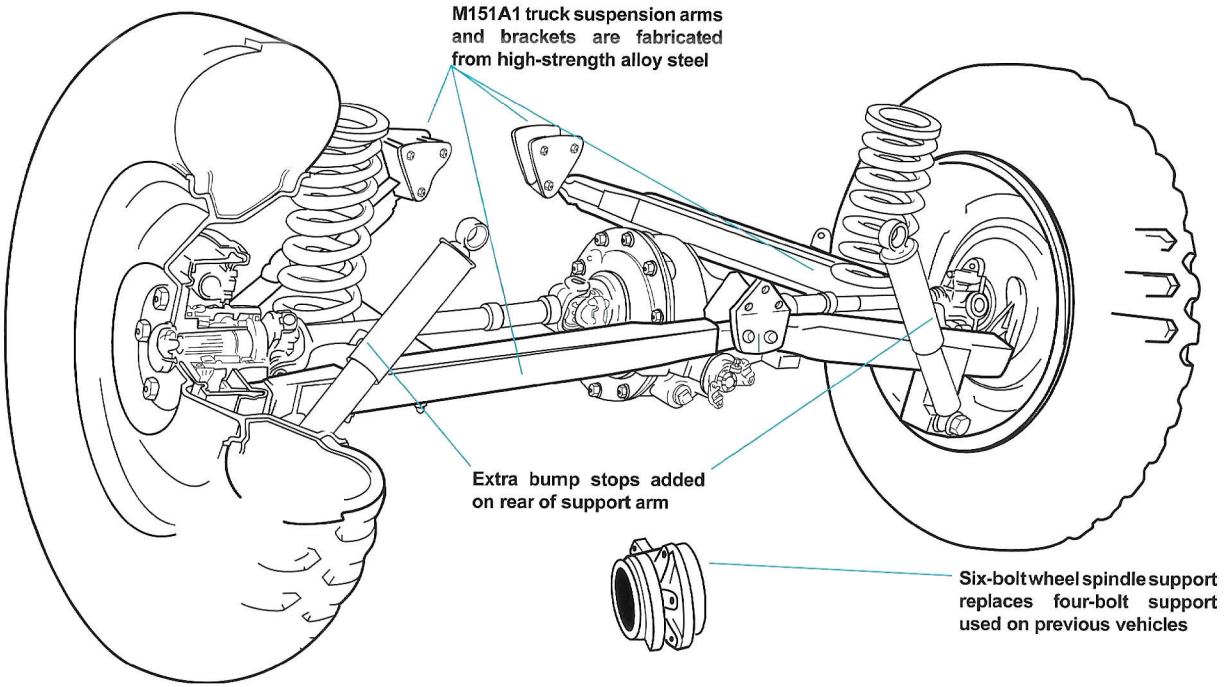
Mounted on the left front fender of this M151A1 is a black out driving light, a standard feature on all vehicles of the M151 family. The narrow slit in the front of the lamp, plus the hood projecting over it, allowed only a narrow beam of light directly in front of the left front tire, and was not visible from the air.

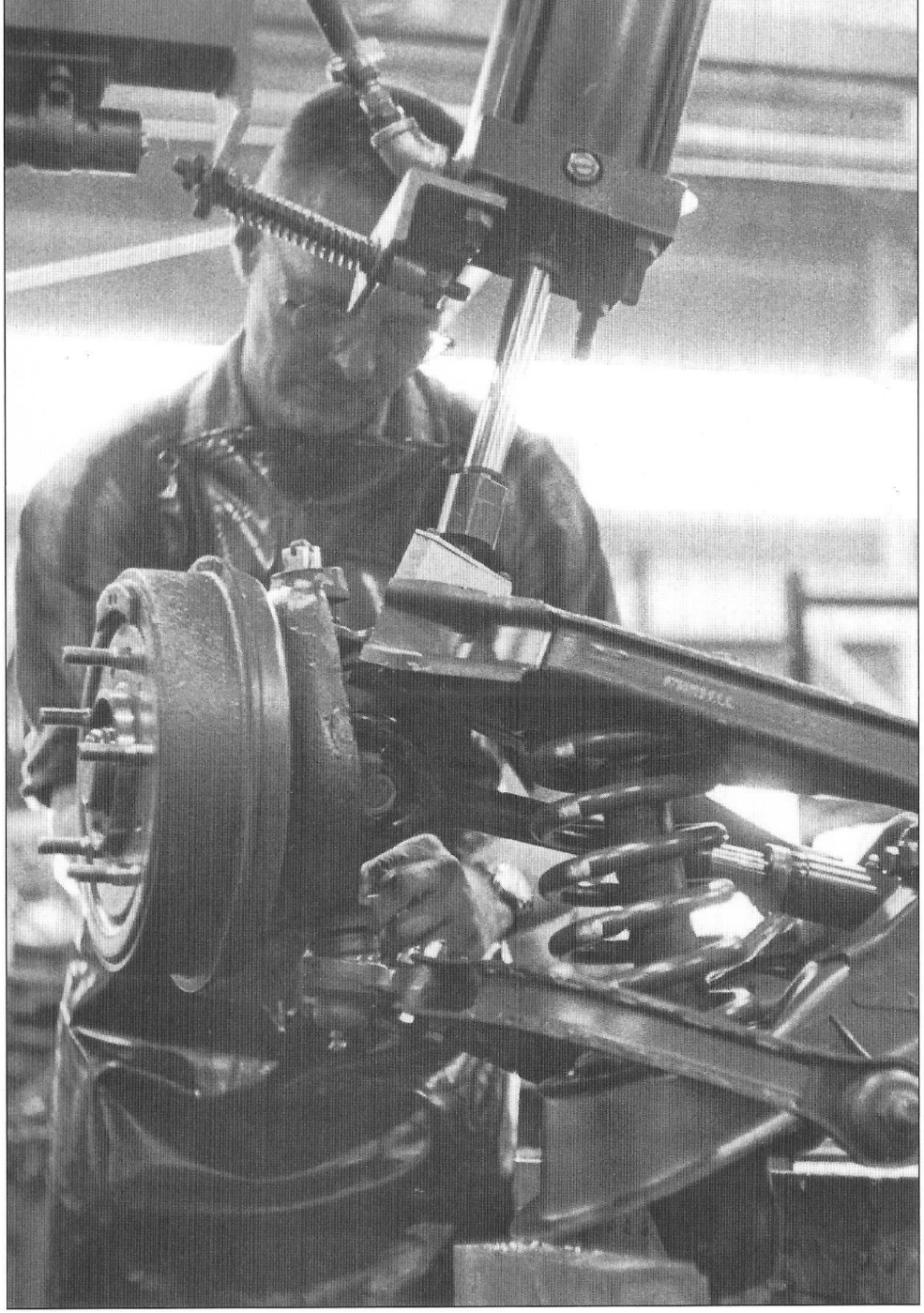


Workmen maneuver the body of an M151A1 into place on the assembly line at Ford's Highland Park tractor plant. The vehicles in the following series of factory photographs were part of the multi-year contract, DA-20-113-AMC-02787 (T). (TACOM LCMC History Office)

Work is underway on the bottom of a unibody. The rear of the closest vehicle is in the foreground. Ford found the multi-year contract for the M151A1s much more attractive from a business perspective than the previous single-year contracts. (TACOM LCMC History Office)

M151A1 Suspension

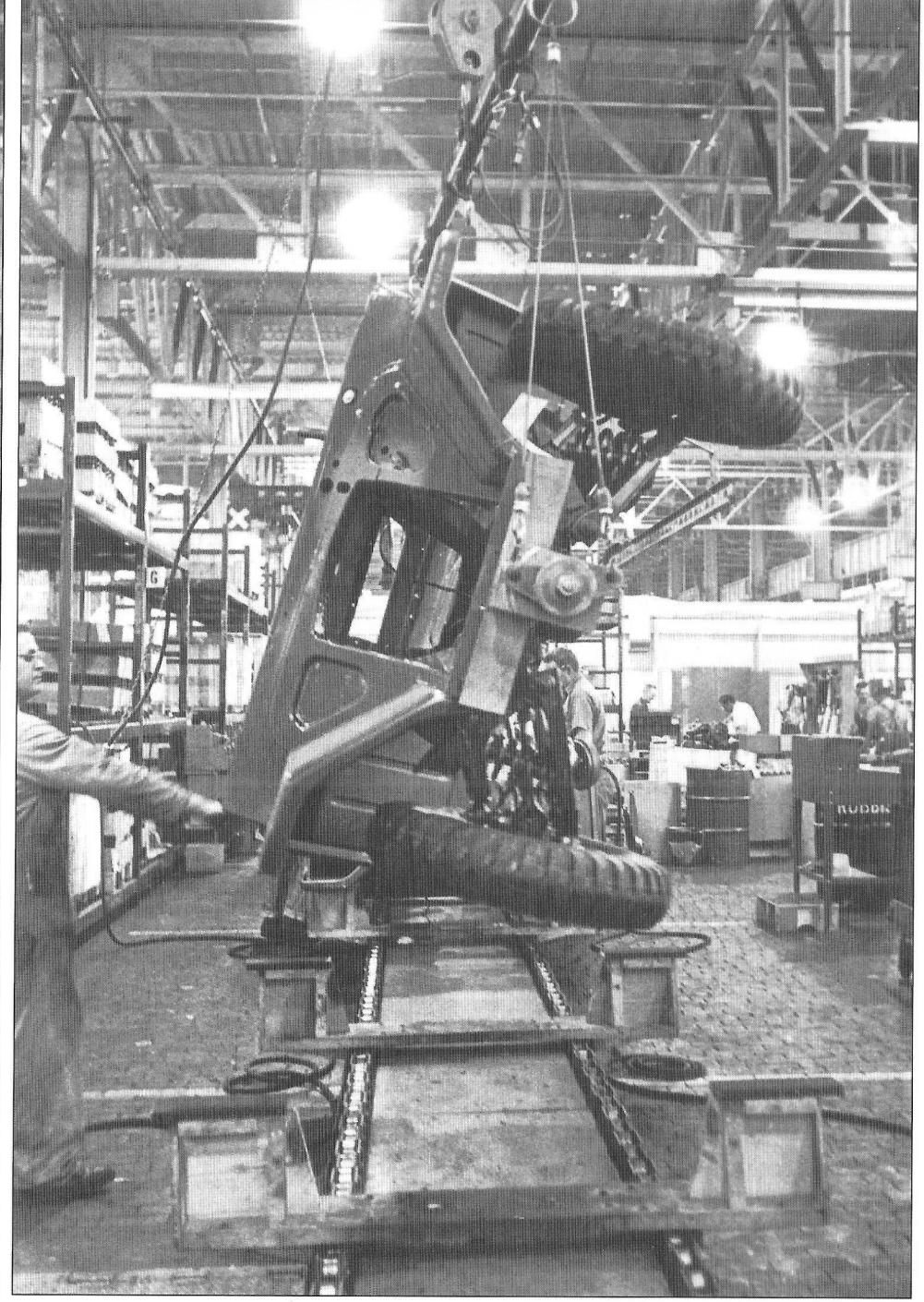

M151A1 truck suspension arms and brackets are fabricated from high-strength alloy steel
Extra bump stops added on rear of support arm
Six-bolt wheel spindle support replaces four-bolt support used on previous vehicles



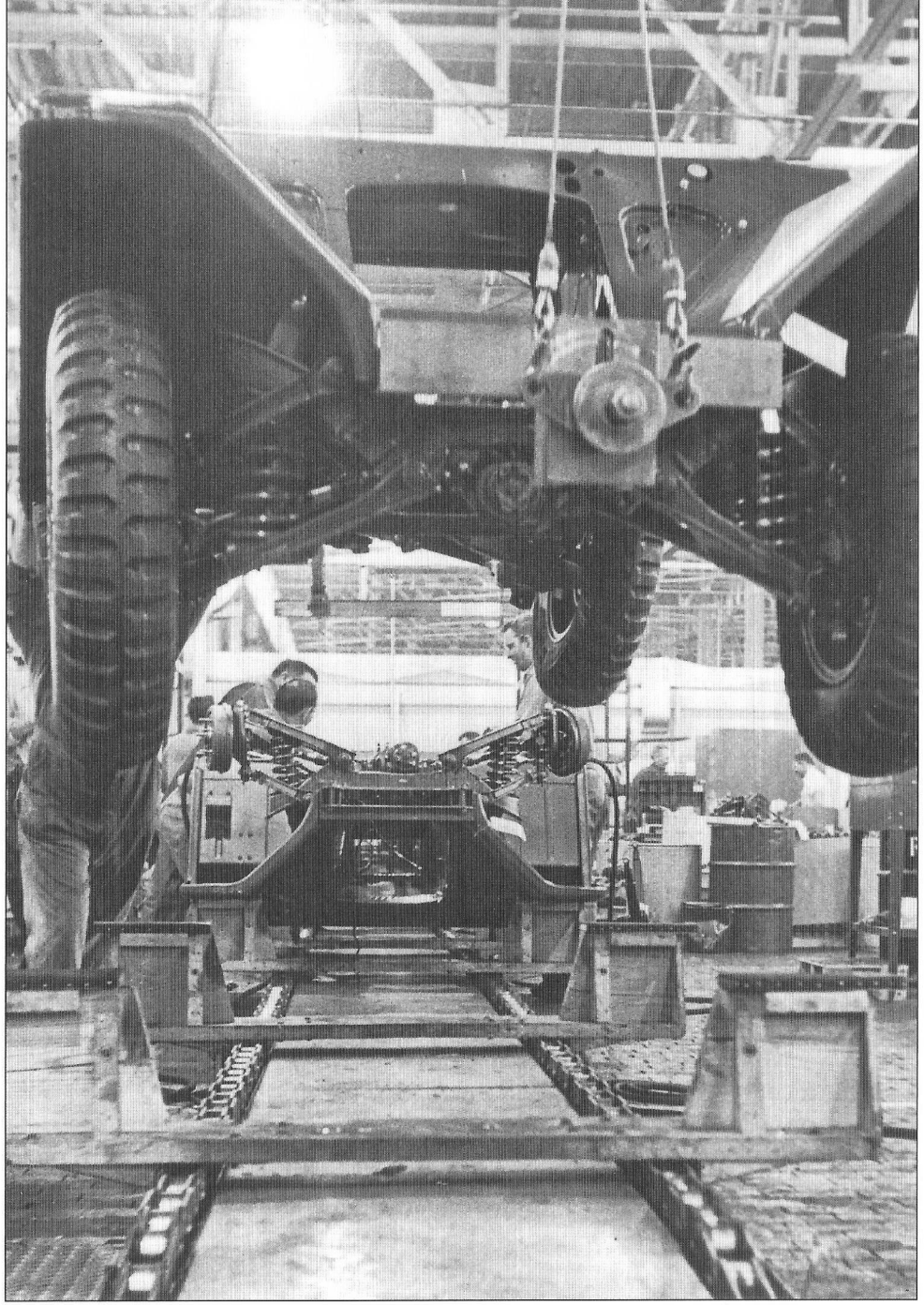
The front independent suspension unit was a conventional short- and long-arm design, with a coil spring and concentric shock absorber seated in the lower arm and attached at the top to a tower. (TACOM LCMC History Office)

A worker mounts a wheel assembly on a M151A1 front suspension. Tires were military standard 7.00-16 LW, six-ply. Visible within the suspension is the half-shaft axle. (TACOM LCMC History Office)

An upended M151A1 on the assembly line is viewed from the front, with the undersides of the fenders visible. Running along the centerline of the vehicle is the drive shaft from the transmission to the rear differential. (TACOM LCMC History Office)



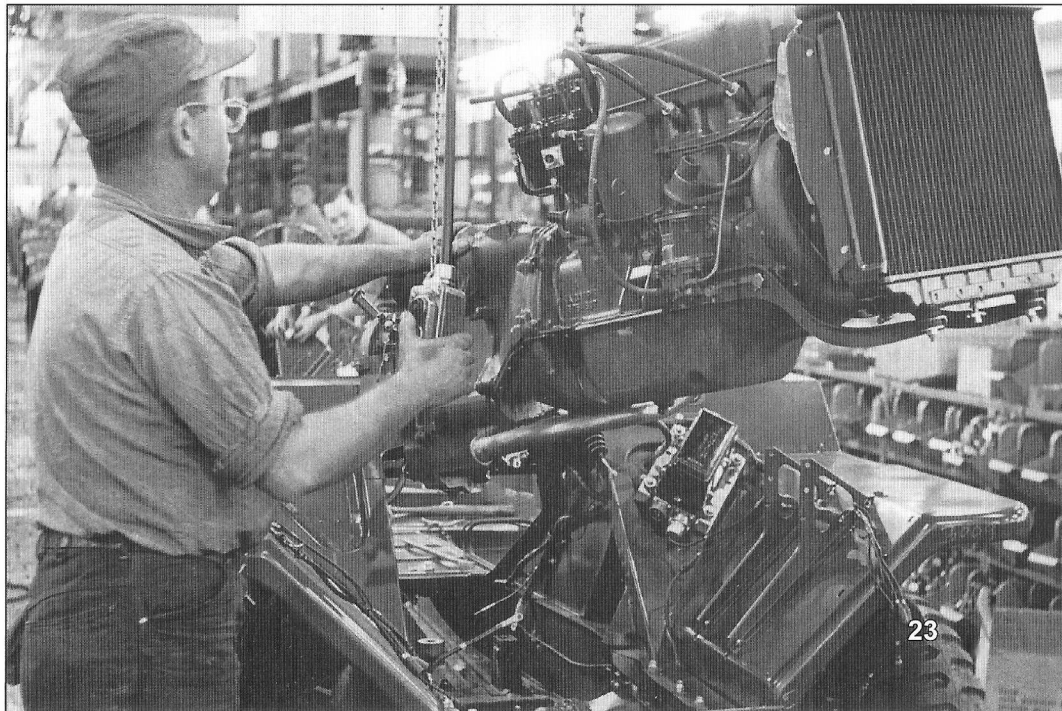
With work on the underside of the vehicle complete, an M151A1 is being turned into a wheels-down position for further assembly. A good view is provided of the engine compartment, fenders, and firewall. (TACOM LCMC History Office)



The M151A1 will be lowered onto the chain-driven chocks and then shuttled down the assembly line. This view portrays the suspension at the full extent of its downward play. The engine will be installed at a later stage. (TACOM LCMC History Office)

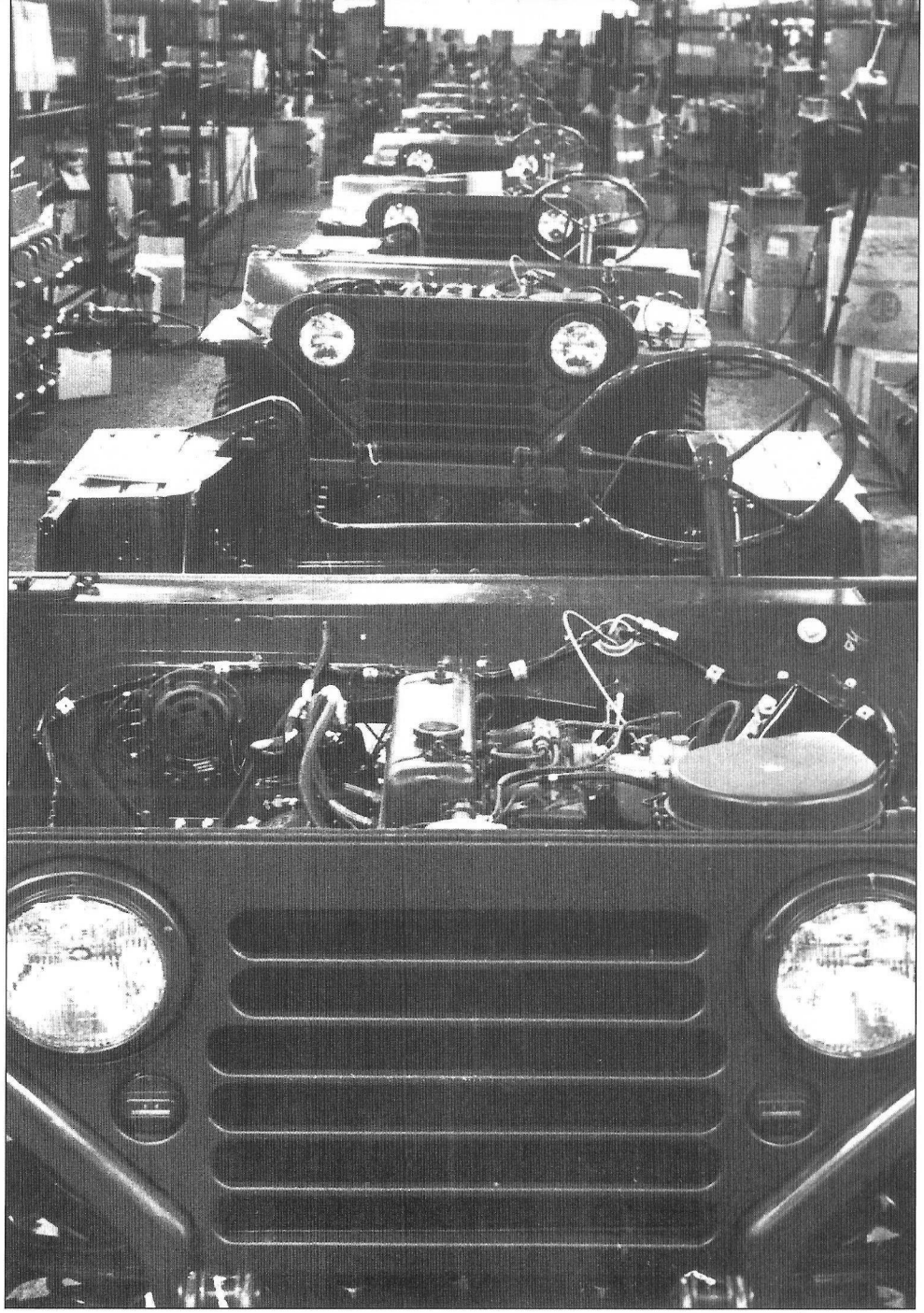
Elements of the cab below the dash are under assembly. On front of the cowl, as seen from the driver's orientation, the horn is installed on the right and the regulator on the left, and some of the wiring harness is in place. (TACOM LCMC History Office)

An engine is prepared for installation. The top of the radiator was attached to the engine lifting eye bracket, while the bottom of the radiator was fastened to the two curved brackets on either side of the engine block. (TACOM LCMC History Office)



In a view from above the Ford assembly line, a workman completes some connections on the engine of an M151A1. Components yet to be installed include the front grille, hood, windshield, and seats. (TACOM LCMC History Office)

A Ford worker tests the performance of a new M151A1 on a chassis dynamometer, which measures the power train's torque and power directly from the drive wheels. Spot welding is visible along the diagonal seam on the cowl. (TACOM LCMC History Office)



These M151A1s all have their headlights and, below them, the blackout marker lamps installed. Visible in the first MUTT is the valve cover of the engine. The drum-shaped device behind the grille is the air cleaner. (TACOM LCMC History Office)

Completed M151A1s at Ford's Highland Park plant are being loaded onto tri-level Auto Rack rail cars for delivery. The spare tires are strapped down to the rear passenger compartments rather than being mounted on their brackets on the rears of the vehicles. (TACOM LCMC History Office)

Then, as it should be now, safety is foremost when operating the M151 MUTT (Military Utility Tactical Truck), and this driver is getting specific instruction as to the abilities – and hazards – of the vehicle. This scene was photographed at the Light Vehicle Driver's Course, Fort Ord, California, in September 1969. In addition to a "student driver" sign painted on the windshield frame, a separate placard with the same information is displayed. White stenciling for the front tire pressure (20 psi) and a caution not to overfill the fuel tank, to allow for fuel expansion, are present on the semi-gloss olive drab finish. (National Archives)

April 13, 1964

Swint Primes M-151 Operations

First of a fleet of 30,000 quarter-ton Army trucks will begin rolling off assembly lines at Ford Highland Park Plant on Nov. 15. That target date has been confirmed by John A. Swint, M-151 Operations Manager, who said peak production would be reached after the first of next year.

When Swint and a task force of departmental heads set up offices at the Plant's "00" Building after April 15, plans will be put into operation to effect an initial shipment of 500 vehicles on Dec. 15 and subsequent deliveries of 1,250 units a month.

Much of Swint's diversified engineering background has been an integral part of military ordnance operations during World War II, after which he became chief engineer and general manager of the Tank Division and head of Ford Truck Development Section, Dearborn.

R. J. Hampson, Ford Vice President and Tractor Division General Manager, recently appointed Swint as manager following the Army's awarding of the $76.6 million, 3-year contract to the Division for the production of the Military Utility Tactical Truck (Mutt), Ford engineered and designed.

Because the vehicle has independent front and rear coil suspension springs, the floating assemblies work individually.

Swint joined the Company in 1945 when he emerged from the Army as a major, later also becoming plant manager of the Livonia Transmission Plant and the Mound-Sterling Plant.

He served in various executive capacities after leaving the Company in 1957. Swint relinquished a position recently as vice president and general manager, California Division of the Menasco Manufacturing Company in Burbank to return to Ford.

During his military career, he directed engineering tank projects. Swint recalled that the Army's medium tank (M-4) powered by a Ford 8-cylinder version of the Company's wartime 12-cylinder aircraft engine, was the "main battle wagon" of that war.

A native of Orchard Hill, Ga., he has a degree in mechanical engineering from Georgia Tech. He holds memberships in the Society of Automotive Engineers and the Engineering Society of Detroit.

Swint resides in Orchard Lake Village with his wife and sons, Gregory, 18, and Anthony, 14.

JOHN A. SWINT, M-151 OPERATIONS MANAGER
He'll call signals in the production of 30,000 army vehicle

Mutt shows off ability to maneuver in rough terrain

WITH 'FOUR-LEGGED' ACTION

Mutt Outplays Jeep

They call it "Mutt."

No disrespect intended.

The term comes from the first letters of its official name, Military Utility Tactical Truck.

And luck would have it that the M-151, successor to the famed "Jeep," was born a Mutt.

Ford designed and engineered, the Mutt will be responsible for 225 additional jobs when the project gets into full swing next fall.

Engineers say the Mutt is downright dogged, as shown by maintenance-free half-million miles of rugged Army testing.

John A. Swint, M-151 Operations Manager, described a few of the Mutt's advantages over the Jeep:

- Gradability and 10-inch ground clearance.
- Unitized body frame construction.
- Front and rear suspension springs, gi each wheel assembly i vidual working act simulating 4-legged act

The $76.6 million con to build the Mutt at the l land Park Tractor Plant, resents the largest multi procurement awarded i Detroit area for more a year.

Because of its mo and reliability, the tru the most widely used i Army's transportation serving as commander t port, reconnaissance communication vehicle, weapons or emergency ply carrier.

The original contract production of the veh was awarded to For June, 1959, following se years of research and neering by Ford in desig the vehicle, literally "f the ground up."

Ford produced more 17,000 M-151s for the A between 1960 and 1962. Army has been using truck principally in over areas, including Europe the Far East, but expect replace all M-38 military hicles with the Mutt.

Ford first became act in the design and prod tion of the trucks in 19 when the Company coop ated in the design of t widely known World W II Jeep. During that w Ford produced 278,0 quarter-ton Jeeps and al

Second Koprince Wins Scholarship from Ford Fund

The second time in four years, Tractor Division employes Julius Koprince and his wife Loraine joyfully learned on Easter Sunday that another in their family had been chosen to become a Ford scholar.

Just as his sister Suzanne had once received the happy news, Ralph Koprince, 18, rejoiced with his family after receiving a telegram awarding him a Ford Motor Company Fund 4-year college scholarship.

The Pontiac Central High School senior had long hoped for the realization to fulfill his ambition for a

Ford, Fund President, on Easter Sunday.

Five of this year's winners have either a sister or brother studying on a Fund scholarship. Ralph's sister will be graduated from the University of Michigan next June.

Koprince, design draftsman and employed by Ford 15 years, described Ralph as having "a wide range of interest" with an intense desire for education.

His mother, stenographer in the Division's Training Department, recalled, "Ralph, as long as I can remember, has been serious

Ralph Koprince

Suzanne Koprince

"I knew what Telegram said before I opened it"

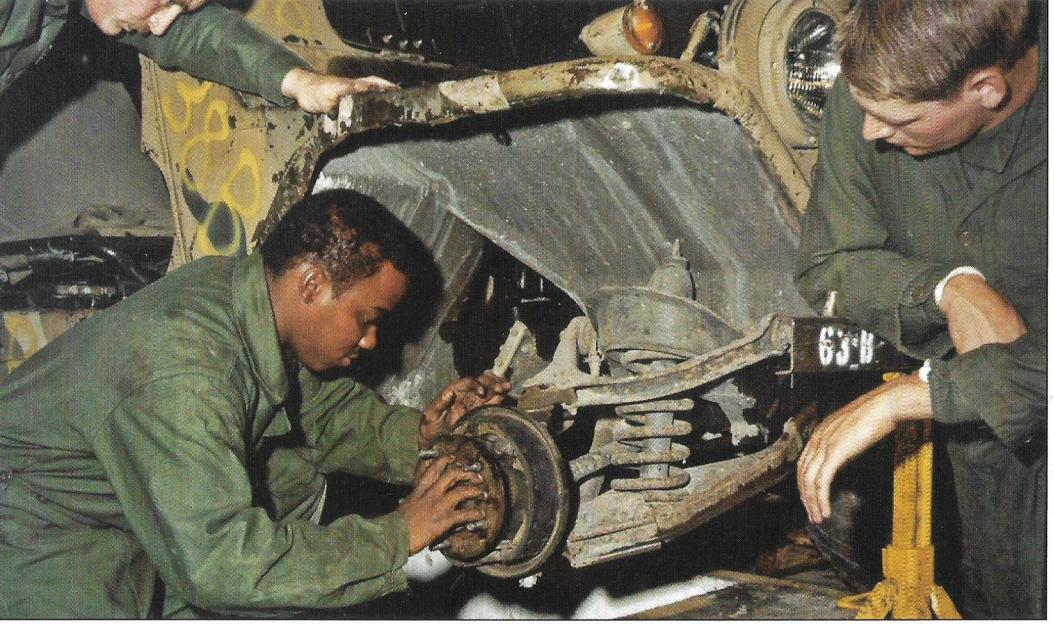
Ralph is a member of the school's tennis team, president of the biology club, vice president of the American Field Service Club and a chemistry lab assistant. He has been a regular participant in school plays and in various youth programs at the Grace Lutheran Church.

Mild-mannered, yet expressive when making a point, the Ford scholarship

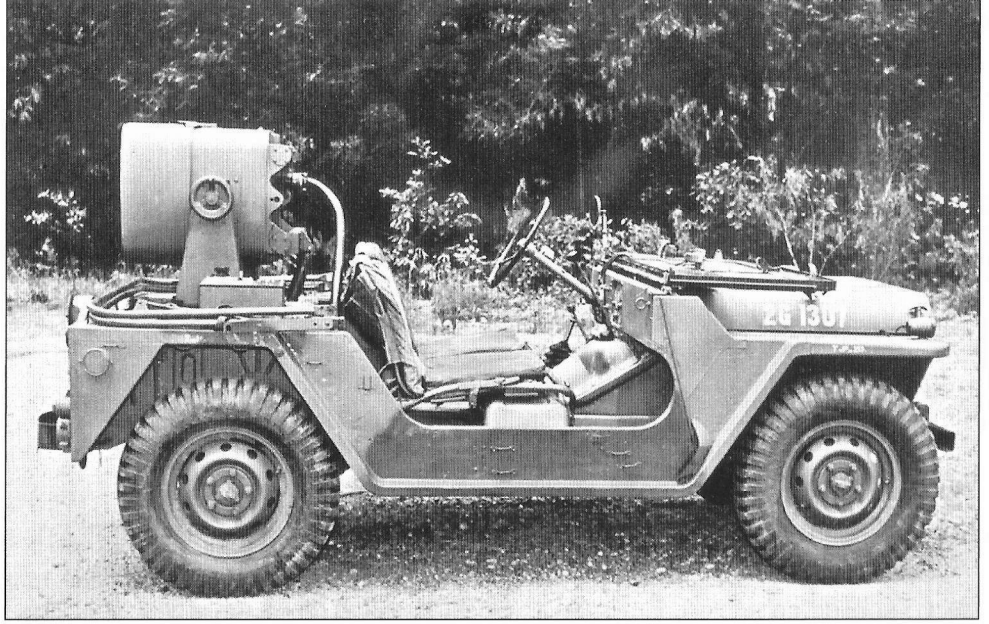
Even scholars require some form of recreation, Ralph conceded. One of his favorite pastimes is playing the guitar . . . "Something I picked up while visiting in Japan last summer with my 'brother' exchange student."

Ralph will be among the scholarship winners as guest of the Ford Motor Company Fund during a formal awards conference June 28-30 at

Even the name MUTT has been somewhat controversial. Despite what some allege, this term was not developed by collectors or hobbyists, nor is it a new term. This April 1964 Ford publication uses the term extensively, and cites it as having been coined by the military. (Jim Gilmore collection)



A mechanic works on the right service brake drum of a war-weary M151 or M151A1. A good view is provided of the upper and lower suspension arms, the coil spring, and shock absorber. (Quartermaster Museum)



Installation of a Xenon searchlight kit entailed removing the rear seat from the MUTT. Power was supplied to the searchlight through a special alternator driven by the vehicle's engine: a 100-amp alternator modified to deliver 180 amps. The Xenon searchlight kit was assigned federal stock number 6230-782-5272. (Jim Gilmore collection)

A straight, plain-Jane M151 of the 101st Airborne Division is used by GIs training with the Little John missile system in this 19 February 1962 photo. The Little John could carry a small nuclear warhead to a range of 10 miles. Obviously – and fortunately – it was never used operationally. The MUTT, on the other hand, had an unrefueled range of about 300 miles, and a top speed of 55 miles per hour. (National Archives)

An M151A1 of the 91st Engineer Battalion leaves the Pentagon after responding to a Vietnam War protest there on 22 October 1967. The serial number, 2K1171, identifies the vehicle as a MUTT built by Ford under the multi-year contract. The door and side curtains were not issued with the vehicle but were available as a kit. (National Archives)

Private First Class Billy Rigsby of the 2nd Battalion, 34th Artillery, was photographed with a MUTT at Area 34, Grafenwöhr Training Area, West Germany, in June 1970. The vehicle is draped with camouflage netting, and it appears to be painted Olive Drab, with a coating of dried mud on the lower body surfaces. (National Archives)

An M151 serves as a referee vehicle during army maneuvers at Pohakuloa Training Area, Hawaii, in late April 1970. This MUTT, serial number 2E4182, was one of the 14,625 M151s produced by Willys/Kaiser-Jeep under contract DA-20-019-ORD-3941 of May 1962. Next to the vehicle is an M114 armored personnel carrier. (National Archives)

Several MUTTs precede a truck convoy. Although some of the MUTTs have canvas tops as well as curtain and door kits installed, the headquarters vehicle to the far left doesn't even have a top cover, although the weather is apparently quite frigid. (National Archives)

With a MUTT to the left, members of the 3rd MP Company, 3rd Infantry Division, confer with members of the 12th Panzer Division concerning the routing of traffic along the Main River in West Germany in early 1970. Festung Marienburg is in the background. (National Archives)

Several U.S. Army vehicles were photographed during a patrol of the 2nd Armored Division along the Czechoslovak-West German border in 1970, including an M718 ambulance, based on the M151A1, to the left, and, next to it, an M151 or M151A1. (National Archives)

Two wrecked MUTTs that may have been beyond repair sit in the maintenance yard at the Grafenwöhr Training Area, West Germany, in late October 1970. The vehicle to the right shows evidence of a rear-end collision. Both vehicles sustained damaged during Operation REFORGER II. Next to them are two M577 command vehicles. (National Archives)

Seven M151A1s of the 560th MP Company, 93rd MP Battalion, 16th MP Group, 18th MP Brigade, are lined up at the company's base at Pleiku, South Vietnam, on 10 June 1970. Stenciled on the side of the cowl of the closest vehicle is the motto, "WE AIN'T THE BEST BUT WE'RE DAMN READY." Machine gun pedestals are visible to the rear of the front seats on the first several vehicles, and two different types of flashing lights are present on top of the cowls. (National Archives)

Two members of the 524th Quartermaster Company, Specialist 5th Class Clayton Frazier (right) and SP4 David A. Romero, were photographed servicing an M151A1 in a shop at Cam Ranh Bay, South Vietnam, in 1970. Romero is changing the yellow sealed-beam headlight, while Frazier appears to be servicing the radiator. This vehicle is painted the semi-gloss olive drab, although weathering has resulted in a very different appearance. (National Archives)

A band is playing and beer is flowing as the 3rd Squadron, 4th Cavalry, 11th Armored Cavalry returns to Katum, South Vietnam, following an incursion into Cambodia on 27 June 1970. Two MUTTs are sitting back to back. The closer vehicle has a canvas top that is decidedly khaki in appearance, a result of the sun as well as the characteristic Vietnam dust. Several M113 ACAVs are in the background. (National Archives)

A member of Company D, 84th Engineer Battalion, mans an M60 machine gun on a pedestal mount on an M151 MUTT during work on an all-weather road to Fire Support Base "Rifle" in August 1971. The soldier's issue weapon, a M16 rifle, is lying next to the gunner. (National Archives)

This M151 belonging to a military police unit of the Republic of Korea's Tiger Division at Quy Nhơn, South Vietnam, in 1970 sports an unusual, glitzy paint scheme. In addition to the gloss black base color were white borders around the wheel wells and running boards. The radio rack, bumperettes, spare wheel cover, top of the fuel container, and seats were also white. (National Archives)

An M151A1 of the 560th MP Company, 93rd MP Battalion, escorts a truck convoy leaving a marshalling yard bound for An Khê, South Vietnam, on 10 June 1970. The MUTT has been field modified with an armored windshield, as was often the case for M151s in convoy escort duty. Rear-view mirrors on top of the windshield frame are painted orange. In the back of the MUTT is an M60 on a pedestal mount. (National Archives)

The MUTT could be armed with a machine gun on a pedestal mount, as on this First Cavalry M151A1 mounting a M60 machine gun when photographed in Bình Định Province, South Vietnam, 22 July 1967. The crew has built up the sides of the vehicle to accommodate extra ammunition boxes. (National Archives)

A pair of M151A1s prepare to escort a convoy departing An Khê 10 June 1970. The M151A1 at left has been equipped with improvised armored windshield and doors. The MUTT, being designed as a light tactical vehicle, was not well-suited for this type use, a lesson that was forgotten in the 35-years after this photo was taken. (National Archives)

This series of photographs documents the effectiveness of an improvised installation of armor plate on a Ford-built M151A1, registration number 2G6336. Plates were attached to the sides of the body. (MP History Office)

This vehicle and its crew were subject to an ambush, with the crew being wounded. As part of the improvised armor conversion the windshield was removed and a plate was installed in that position. (MP History Office)

With a GI sitting in the driver's seat, the level of protection – and vulnerability – becomes apparent. Though always rare, similar improvised armor was also fitted to M37 ¾-ton trucks, as well as 2½- and 5-ton 6x6 trucks when used for convoy escort duty. (MP History Office)

Although the plate was quite thin, it was enough to stop at least one small-arms bullet, the dent from which is visible in the center of the top photo and is emphasized with an X in this photo. The plates were assembled with hex screws and washers. (MP History Office)

Two M151A1 MUTTs equipped with 23-inch Xenon searchlights, with one equipped with a dash-mounted gun shield, are seen at Đồng Tâm, South Vietnam, in 1969. In the background is a M416 trailer. (Joel Nelson, 2d Platoon, H-29th Arty)

A convoy defense commander's M151A1 was photographed while providing security for the tail of a truck convoy of the 2nd Transportation Company, 8th U.S. Army Combat Transportation Group, in the Republic of Vietnam in mid-April 1970. It is armed with a pair of M60 machine guns in an unusual mount behind the front seats. "DO YOUR THING" is painted on the bottom of the windshield frame in red with white borders. (National Archives)

A "gun jeep" (actually of course an M151A1) of the Eighth Transportation Group stands by on the roadside as an Eighth Group convoy passes by. The "gun jeeps" provided some degree of protection against VC ambushes. The distinctive yellow nose of this group's vehicles aided in aerial recognition of the unit. (U.S. Army Transportation Museum).

A trio of MUTTs lead a convoy along Route 1 in Vietnam in July of 1967. The vehicles were assigned to First Squadron, Ninth Cavalry, First Cavalry Division (Airmobile). The GI riding on the front bumper of the lead vehicle is carrying a mine detector – an indication of an ever-present danger. (National Archives)

Specialist Fourth Class Ralph J. Ward of Troop D, 1st Squadron, 9th Cavalry, 1st Cavalry Division (Airmobile) leans on an M60 machine gun on a pedestal mount on a MUTT while scanning the countryside for enemy troops during Operation Pershing in Vietnam during the summer of 1967. (National Archives)

Marines of the 1st Marine Division take cover behind an M151A1 MUTT and M416B1 trailer during street fighting in Hué, Vietnam, during the Tét Offensive on 5 February 1968. The MUTT is fitted with the fording kit often seen on Marine M151s. A five-gallon liquid container and rack are on the side of the trailer. (National Archives)

As photographed between the girders of a bridge, a Marine has taken advantage of a stream with a solid bed by parking his MUTT in it and giving it a good washing. Visible on the front fender entering the side of the hood is the air intake hose for an uninstalled air intake tube for a deepwater fording kit. (National Archives)

Off Đà Nẵng, Vietnam, on 20 August 1970, Marines of the 7th Engineer Battalion wait for their MUTT to be offloaded from the transport ship USS *Saint Louis* (LKA-116). Atop the wooden cover over the windshield of the vehicle are disassembled components of a deepwater fording kit, including the air intake tube and the tail pipe. (National Archives)

Behind the orderly room at Artillery Hill, NW of Pleiku, in 1971 sit two command officers' M151A1s of B-Btry 4th Bn 60th ADA (Dusters). The rear one has a canvas soft-top and a tribute flag for B-141, a Duster destroyed in battle. The front M151A1's driver (SP4 Bob Leggio) was unofficially allowed to "pimp-out" the paint and accessories – hence the white pin striping and custom seat and radio covers. (1LT Charles Swank, XO, B-4/60)

Specialist Fourth Class Gary Higgins of Lancaster, California, operates an RT-524 transmitter/receiver (left) and a KY8-6/TSEC crypto set (right) in an M151A1 at Landing Zone Hammond, Vietnam, on 9 February 1967. Such installations were the reason for the adoption of the 24 volt system as standard by the U.S. and Allied nations in the post-WWII era. Higgins' insignia identifies him as a member of the 1st Cavalry Division (Airmobile). In the background is a Dodge M37B1 ¾-ton truck. (National Archives)

Rolling over – the infamous hazard of this vehicle series – is shown in this image from Vietnam. An ARVN driver went too fast and rolled this M151A1, damaging the hood and front end. Writing a report by the wreck is an ARVN MP, signified by the "QC" (Quân Cảnh) and red/white/red stripes on his helmet. The ARVN (Army of the Republic of Vietnam) was a prime user of M151-family vehicles. (U.S. Army Transportation Museum)

A 1969 M151A1 in the foreground, and a second MUTT in the background, flank bags of rice in the Fish Hook area of Cambodia. The MUTTs, like the M88 in the left background, were assigned to First Battalion, 27th Infantry in May 1970. (National Archives)

An M151A1 is parked next to the Self-Service Supply Center at the 19th Supply & Service Company base at Phú Tây, Vietnam, 8 June 1970. The blue-gray paint and TO9858 stenciled on the front bumper of the MUTT indicate that this may be a Navy vehicle. (National Archives)

19TH SUPPLY&SERVICE CO. (DS)
SELF SERVICE SUPPLY CENTER
YOU CAN GO EAST, YOU CAN GO WEST, BUT OUR SELF SERVICE WILL SERVE YOU BEST

Specialist Fourth Class Robbin Homokay, a chaplain's assistant from Silver Creek, New York, sets up a portable Ark of the Covenant on top of a M151A1 hood in preparation for a Jewish outdoor religious service at Cam Ranh Bay, 11 June 1967. Draped over the windshield is a Jewish chaplain's flag. (National Archives)

A USAF security policeman wearing an "SP" armband approaches a MUTT at the gate to a base. The tow shackles on the front bumper are painted white, and the windshield assembly has been removed from the vehicle. (MP History Office)

A mass of over 40 new M151A1s photographed in February 1970 at a supply depot at Cam Rahn Bay, Vietnam. This depot was operated under contract by the Vinnell Corporation – one of the many contractors operating U.S. facilities during the war. (National Archives)

A First Infantry Division patrol, utilizing a M151A1, patrols a dusty road in Vietnam during 1969. The rear-down stance of the vehicle is indicative of its light load-carrying capacity and independent suspension. The M151-series of vehicles was one of the first, if not the first, wheeled tactical vehicle deliberately destroyed by the military rather than being released to the collector/commercial market. (U.S. Army Transportation Museum)

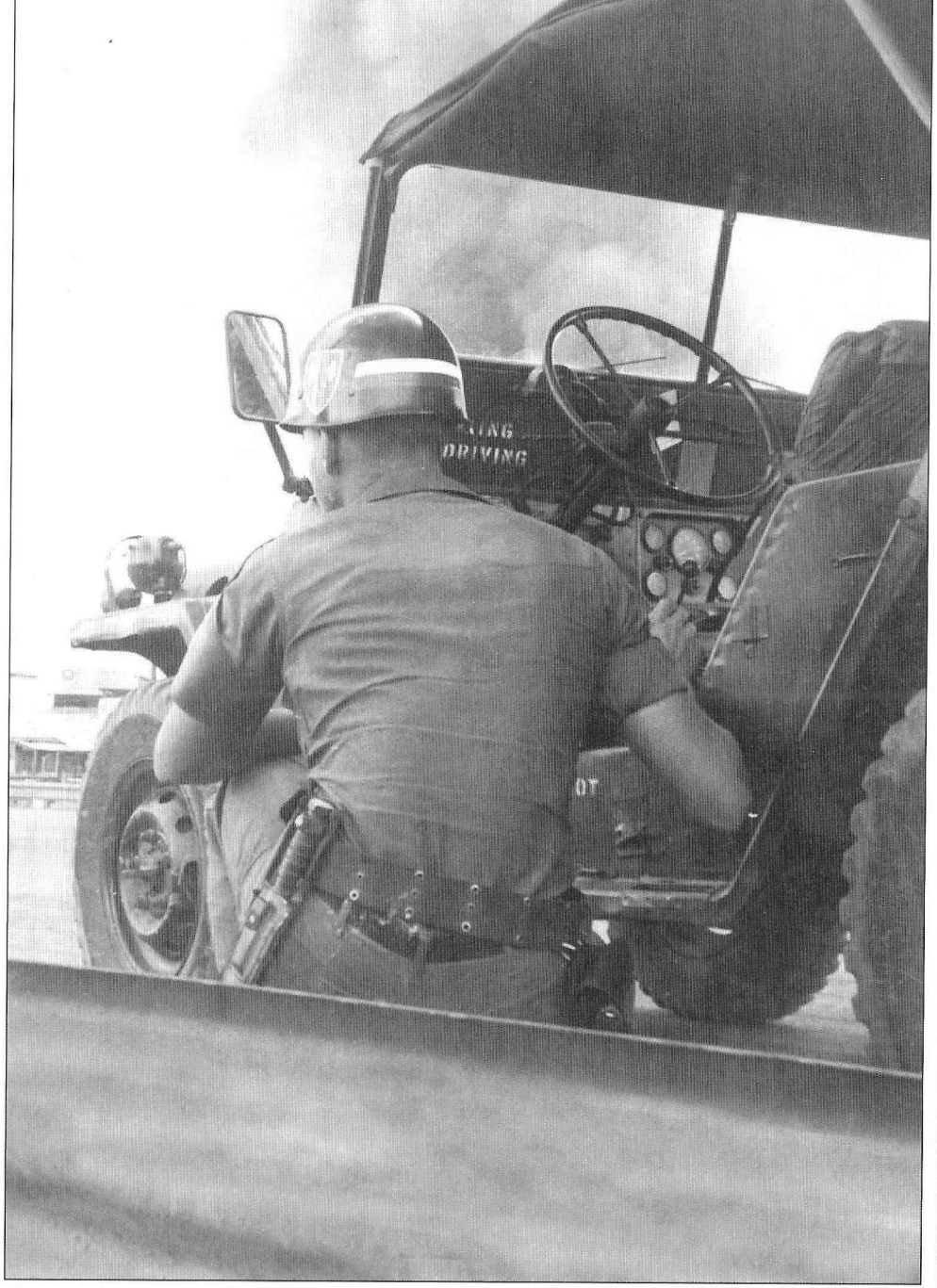
A Mechanical Mule extracts a mired M151A1, belonging to the 101st Airborne Division, on 12 October 1969. Several GIs are on the Mule – and the MUTT – in an effort to improve traction. Remarkably, the one-quarter ton load rating of the MUTT was exceeded by that of the Mule, which was officially designated "M274 Truck, Platform, Utility, ½-ton, 4x4." (National Archives)

A military policeman writes up a report while sitting in a MUTT. Accessories include reddish-orange lights with chrome rims, a reddish-orange siren on the right fender, and what appears to be a piece of black cushioning on the bottom of the door opening. (National Archives)

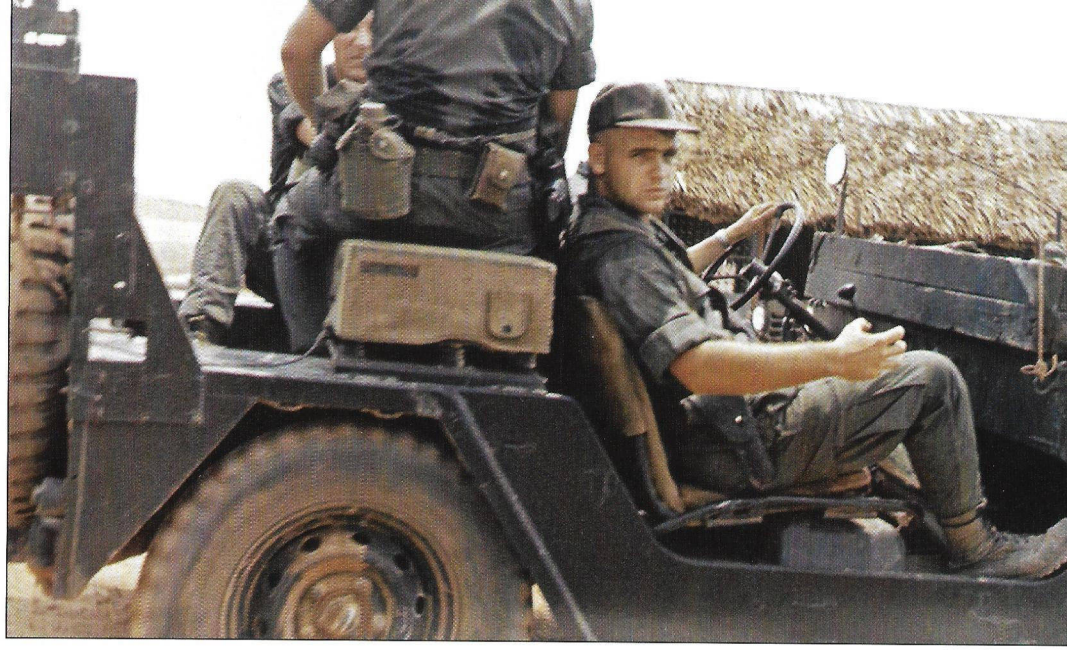
An MP of the 560th Military Police Company changes the rear tire on an M151 in Vietnam while another MUTT passes by. The vehicle is fitted with a pedestal for an M60 machine gun, a radio, and, on at the rear with an orange placard, an antenna mounting bracket. (National Archives)

A radio-equipped M151 attached to the Military Police is parked alongside a pair of Cadillac Gage Commando armored cars. Beyond the MUTT in the foreground is another parked MUTT. (National Archives)

A member of the 560th Military Police Company uses a handset to transmit a message over the radio in the rear of an M151. The canvas top is faded to a light khaki color. Stowed in the rear of the MUTT is a C-ration box. To the lower left is the fuel filler cap. (MP History Office)



During the Tết Offensive in February 1968, a military policeman takes cover from sniper fire next to his M151. The MP's helmet bears the insignia of the 18th Military Police Brigade. Visible inside the vehicle below the steering wheel is the instrument cluster. (MP History Office)



The windshield of this MUTT has been removed and some sort of wooden crate has been mounted on the hood. The radio set makes a convenient seat for one of the passengers. (MP History Office)

The MUTT was highly vulnerable to enemy fire, and this MP MUTT in Vietnam has at least four flat tires and a shattered windshield. Visible on the body of the vehicle below the fuel filler tank is the stencil reading, "CAUTION DO NOT OVER FILL." (MP History Office)

Several Military Police M151s, including three to the far left, prepare to escort a truck convoy through a Vietnamese city. MUTTs would frequently lead the columns and bring up the rear, providing some cover with their M60 machine guns. (MP History Office)

MPs monitor activities on a highway in Vietnam. The Military Police wheel cover was frequently observed on MP M151s in country. A large whip antenna is on the mast to the right rear of the vehicle. (MP History Office)

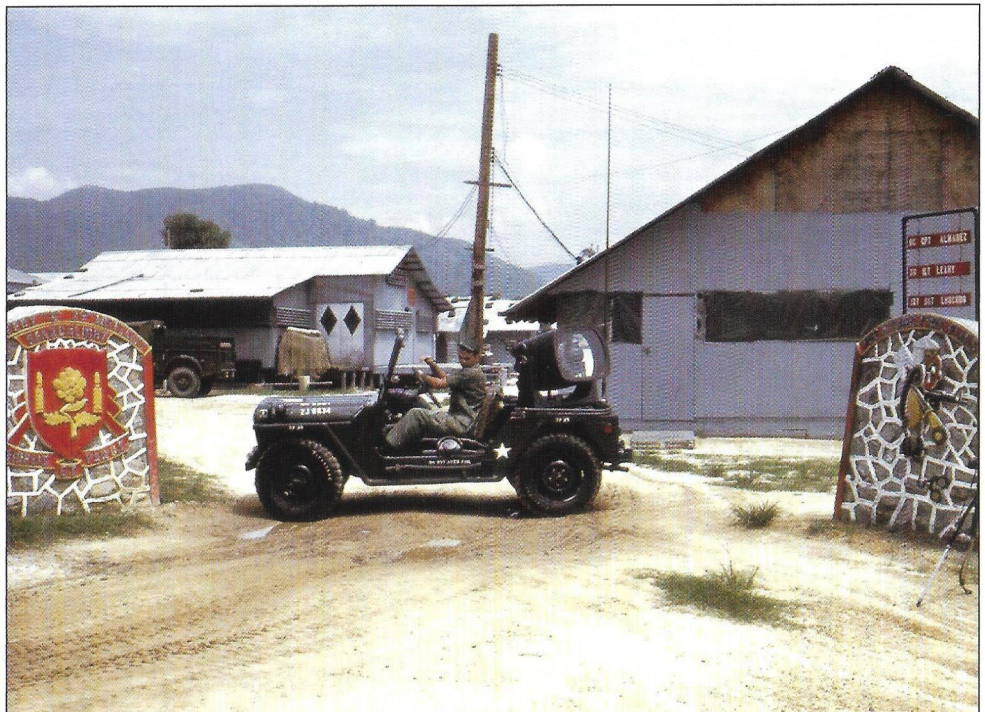
An MP confers with a three-star general while a combat cameraman snaps their photo. Visible on the front bumper of the M151A1 is a partial unit marking, "AB101P," standing for the 101st Airborne Division, Military Police. (MP History Office)

A MUTT serves as a VIP conveyance for a four-star general and his staff. Visible below his seat is a stencil on the battery compartment cover that reads, "CHECK BATTERY DAILY." (National Archives)

A small convoy of radio-equipped MUTTs gathers at an airfield near a twin-propeller passenger plane tasked with transporting a high-ranking officer. (Carl T. Heller)

This MUTT exhibits a red reflector on the wheel of the spare tire: a common practice, since the tire obscured the right body-mounted reflector. By the time the M151A2 was introduced, stick-on reflectors for the spare wheels were standard. (Carl T. Heller)

Capt. Almarez, Battery Commander of G-29th Field Artillery, sits in an M151 equipped with a 23-inch Xenon searchlight at the entrance to G-29th compound, Đông Hà, South Vietnam, in 1970. The nearly new vehicle shows off the dark semigloss olive drab paint worn by most U.S. Army vehicles in the Vietnam war. This shade, per Federal Standard, is FS-595A X-24087. This color designation was altered per Change 8 FS-595A, 1 January 1984. This color was redesignated 24084. (1LT Kevin Leary, G-29th Arty)



Scouts man a Ford-built M151A1 in Vietnam. In addition to the pedestal-mounted M60 machine gun with a field-installed seat behind it, another M60 is on a pivoting mount on the right side of the cowl. On the rear of the vehicle is an early style M151 wheel made of magnesium, while on the front is the more common, later steel wheel. Mixing the two types on the same vehicle was a violation of army policy. (Chris Harlow)

In the highlands of Vietnam, hitched to this 1967 Ford M151A1, registration number 2P4260, is an M416 ¼-ton trailer. These trailers are notably amphibious. To the rear is a road grader. (Military Vehicles Magazine collection)

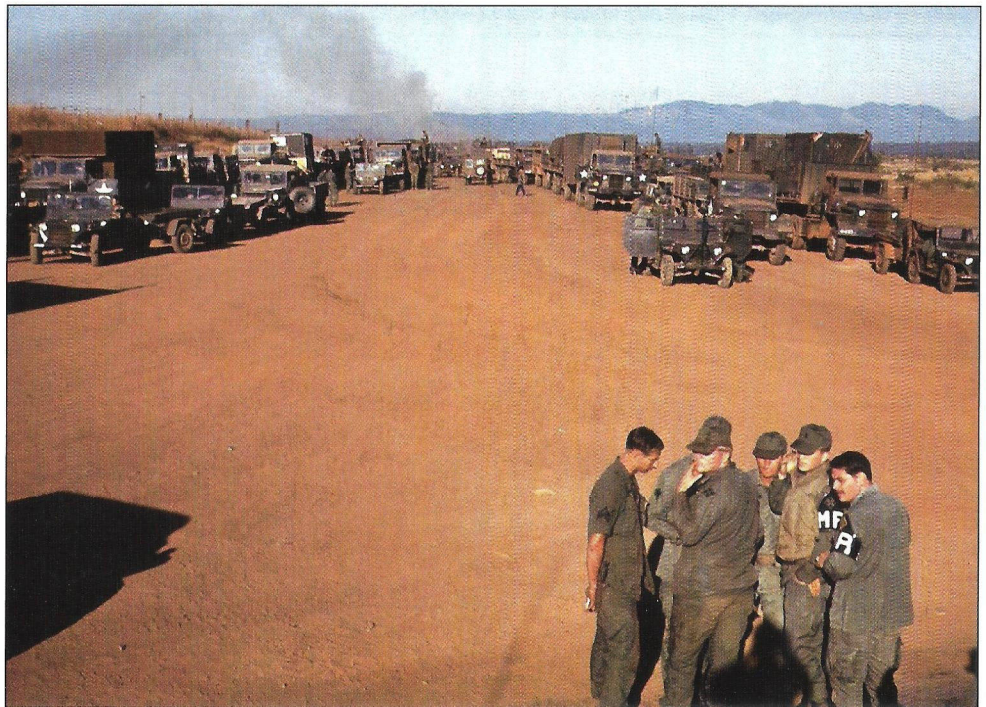
The same MUTT as in the preceding view is parked in a heavy-equipment yard in Vietnam. A flak vest is draped over the front passenger's seat. In the rear next to the radio are a civilian-type ice chest and a pair of M16 rifles. (Military Vehicles Magazine collection)

Four MUTTs bristling with radio antennas are on standby at an operations hut. The one in the foreground has a nonstandard canvas top, the rear panel of which is in front of the pedestal mount for the M60 machine gun. (U.S. Army Transportation Museum)

On 29 April 1970, MUTTs are lined up in front of the headquarters building of the 164th Aviation Group at the Dempsey Compound, Cần Thơ Army Airfield, IV Corps tactical zone, Republic of Vietnam. (National Archives)

A convoy proceeds past a checkpoint with a sign announcing the departure time, 1300 hours. Standing by to the right is "Death Inc." The inclusion of a rear-view mirror on the right side of the vehicle is unusual. (U.S. Army Transportation Museum)

MPs and drivers confer at a convoy assembly point in Vietnam. To the far left is a MUTT with white bars painted on the front bumper, while the MUTT directly above the men in the foreground is equipped with a wire cutter on the front bumper. (U.S. Army Transportation Museum)



Donald Gardner of B-Btry 29th FA does maintenance on the 23-inch AN/GSS-14 Xenon searchlight attached to a M151A1 at their position atop Ben Khe, 25km west of Nha Trang, Káng Hòa Province, II Corp. The light's cowling and reflector lie in the foreground. All four searchlight batteries (B-, G-, H, and I-Btrys 29th FA) trained from Ft. Sill, OK and were deployed between 1965 and 1972 using the A1 versions. (Bill Molton, B-29th FA)

The searchlight installation is clearly shown on this G-29th Battery searchlight vehicle parked outside battery HQ in Đông Hà in 1970. (1LT Kevin Leary, G-29th Arty)

Sergeant Jan Stoudt and Sp4 Ronald Murray of the 2nd Battalion, 505th Infantry, 3rd Brigade, 82nd Airborne Division, use a MUTT-mounted AN/VSC-2 radio to relay communications between their battalion command post and the 3rd Brigade command post on the perimeter of the Marine air base at Phú Bài in early 1968. (National Archives)

Two MUTTs, one in the foreground and one in the lead, perform convoy-escort duty on a rainy highway. The GI in the flak vest in the rear of the closer MUTT is sitting in a side-facing bucket seat that was installed in the field. The M60 machine gun along with ammo box are affixed to the pedestal mount and ready for instant action. (MP History Office)

A mine caused the cataclysmic damage to this M151A1 in Vietnam. Its registration number, 2F6347, indicates that it was produced by Willys/Kaiser-Jeep under contract DA-20-113-AMC 0846 (T) of 14 December 1962. (Carl T. Heller)

This M151A1 searchlight of the I-29th Arty was damaged when Phú Cường Bridge near Saigon was blown up by sappers on 6 November 1968. SP4 Larry Tole and the M151A1 were blown into the air and came down on the twisted guardrail next to the missing section of the bridge. (Sgt John Weers I-29th Arty)

A group of I-29th Field Artillery M151A1 MUTTs equipped with 23-inch Xenon searchlights line up outside I-Battery HQ in Củ Chi, South Vietnam. The 2CA9569 Army registration number stenciled on the side of the hood identifies this vehicle as a 1969 Ford-built vehicle, one of the last M151A1s turned out. The registration number, sometimes referred to as the "hood number," is the number issued by the military as part of the manufacturing contract that is used for tracking the maintenance and accountability of the vehicle. The registration number is coded to indicate vehicle weight class, and in some cases use, engine type and year of manufacture. Under most circumstances the registration number does not change during the life of the vehicle. Ford used the assigned army registration number as its manufacturer's serial number, although other manufacturers did not follow this example. (1LT Kevin Leary, G-29th Arty)

This Ford M151A1, equipped with Xenon searchlight, is undergoing maintenance in the 29th Field Artillery, G Battery Motor Pool, at Đông Hà in 1970. The special spare tire mount used on searchlight, TOW, and recoilless-rifle equipped vehicles is clearly visible adjacent to the passenger's seat. (1LT Kevin Leary, G-29th Arty)

In May 1976 a U.S. Military Policewoman, walkie-talkie in hand, stands next to an M151 MUTT with Military Police markings on the front of the windshield frame. Specialist Schneider, in the passenger's seat, wears the badge of the U.S. Army Military Police. (Department of Defense)

A soldier adjusts the M60 machine gun on an M151 or M151A1 painted in a four-color MERDC camouflage scheme. To his back is the coil spring of the antenna mount. The MERDC camouflage system interchanged three of the four colors, depending upon the season and region in which the vehicle was operating. (Jim Gilmore collection)

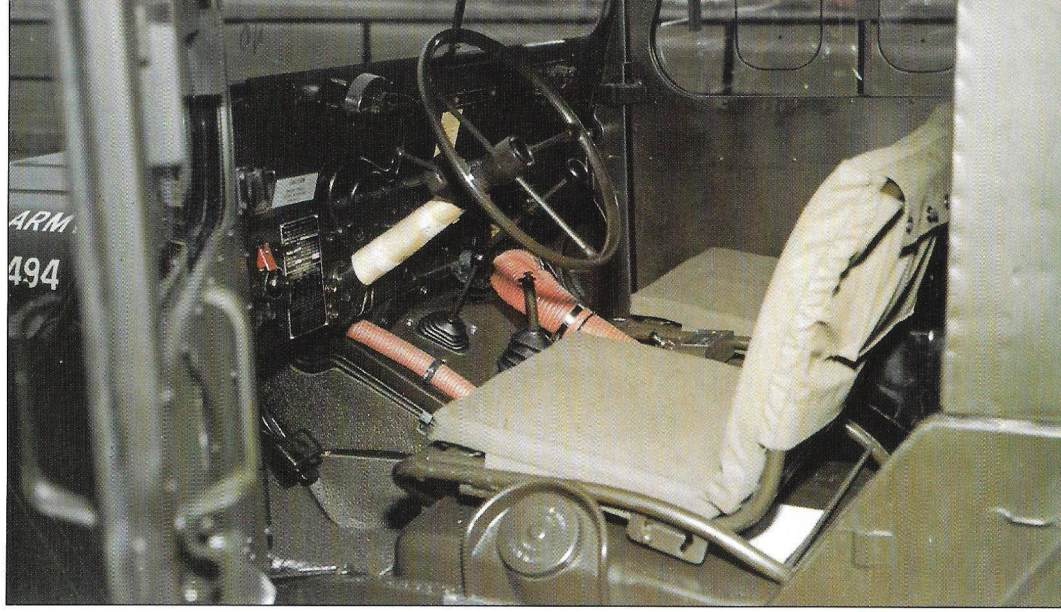
The U.S. Air Force developed the M108 communications vehicle, an adaptation of the M151A1, as a mobile link between forward air controllers (FACs) and close-air-support elements. Visible through the window at the rear of the canvas top is the HF antenna. This antenna was over 30 feet high. The wide tube at its base was a rubber sleeve that protected personnel who came close to the antenna from receiving radio frequency (RF) burns. (National Archives)

The same M108 as in the preceding photo is shown from the right side at Seymour Johnson Air Force Base, North Carolina, in October 1969. The antenna behind the front passenger's seat served dual duty for both the UHF transceiver and the VHF transceiver. The telescope-like antenna at the right rear corner of the body is for the AN/PRC-25 FM transceiver. (National Archives)

The M108 mounted the MRC108 pallet of receivers and transmitters powered by a 3-kilowatt generator on an M416 trailer, with an onboard 100-amp alternator for backup power. Shown here is Tech Sgt. James H. Templeton of the 82nd Security Police, USAF. (National Archives)

In addition to the MRC108 radio array, several man-portable HF and FM radio units were carried. Hand-control units with cables allowed the FACs to operate the radio units away from the vehicle. As a downside to the vehicle, the sizeable radio array made the M108 communications vehicle top-heavy and even more unstable at high speeds than normal. (National Archives)

Available for installation on MUTTs was a -65° Fahrenheit hardtop enclosure kit. The kit, federal stock number 2540-780-1972, comprised an insulated aluminum enclosure with safety glass windows. The doors had sliding glass windows. The kit also included weathersealing gaskets and a cover for the radiator grille. (TACOM LCMC History Office)



The -65° winterization kit also featured a fuel-burning heater between the front seats. Parts of the heater are visible in this photo between and to the rear of the seats. The orange flex hoses are hot-air ducts for a defroster and oil-pan heater. The orange switch on the left side of the dash board is the defroster control. (TACOM LCMC History Office)

A radio-equipped M151A1 with a -65° Fahrenheit winterization kit was photographed in Alaska during Exercise Acid Test I and Punch Card V in January or February 1969. The building was the headquarters of Task Force Chewkotsky. The winterization kit could be installed in the field using common fasteners. (National Archives)

The MUTT served wherever the U.S. Army served, not just in the mud and jungles of Vietnam. This 272nd Signal Company vehicle leads a convoy near Fort Richardson Alaska in February 1969 as part of Exercise Acid Test I, Punch Card V. This vehicle is equipped with the arctic hard top cab enclosure. (National Archives)

An M151A1 wearing the four-color MERDC paint scheme leads a convoy of like-painted M35A2 trucks during exercise Sentry Castle '81. This took place at Fort Drum, New York – and the MUTT did not have much longer to serve. (Department of Defense)

Details of the windshield-wiper vacuum motors and rubber hoses as used in the M151 and M151A1 are visible in this view. Starting with the M151A2, a two-speed electric motor linked to a pivot shaft operated the windshield wipers. (Jim Gilmore collection)

Troops of the 11th Armored Cavalry have stopped their two MUTTs to confer with two West German soldiers while patrolling the border between East and West Germany in May 1979. The MUTTs wear an unofficial variation of MERDC camouflage and have black recognition stars. (Department of Defense)

This view of a woman U.S. Army technician posing by the left front end of an M151 in September 1985 provides a partial view of the service brake housing. She is holding with her right hand half of the universal joint and the outer portion of the front axle (also known as a half-shaft). (Department of Defense)

A Company 6th Battalion, 31st Infantry / 1st Motorized Rifle Battalion (OPFOR) Specialist Jim Worthington stands beside the executive officer's MUTT on the side of a mountain during a rare rain storm at the National Training Center at Fort Irwin, California. The MUTT's suspension allowed it to climb over loose rocks. (Scott Wingate)

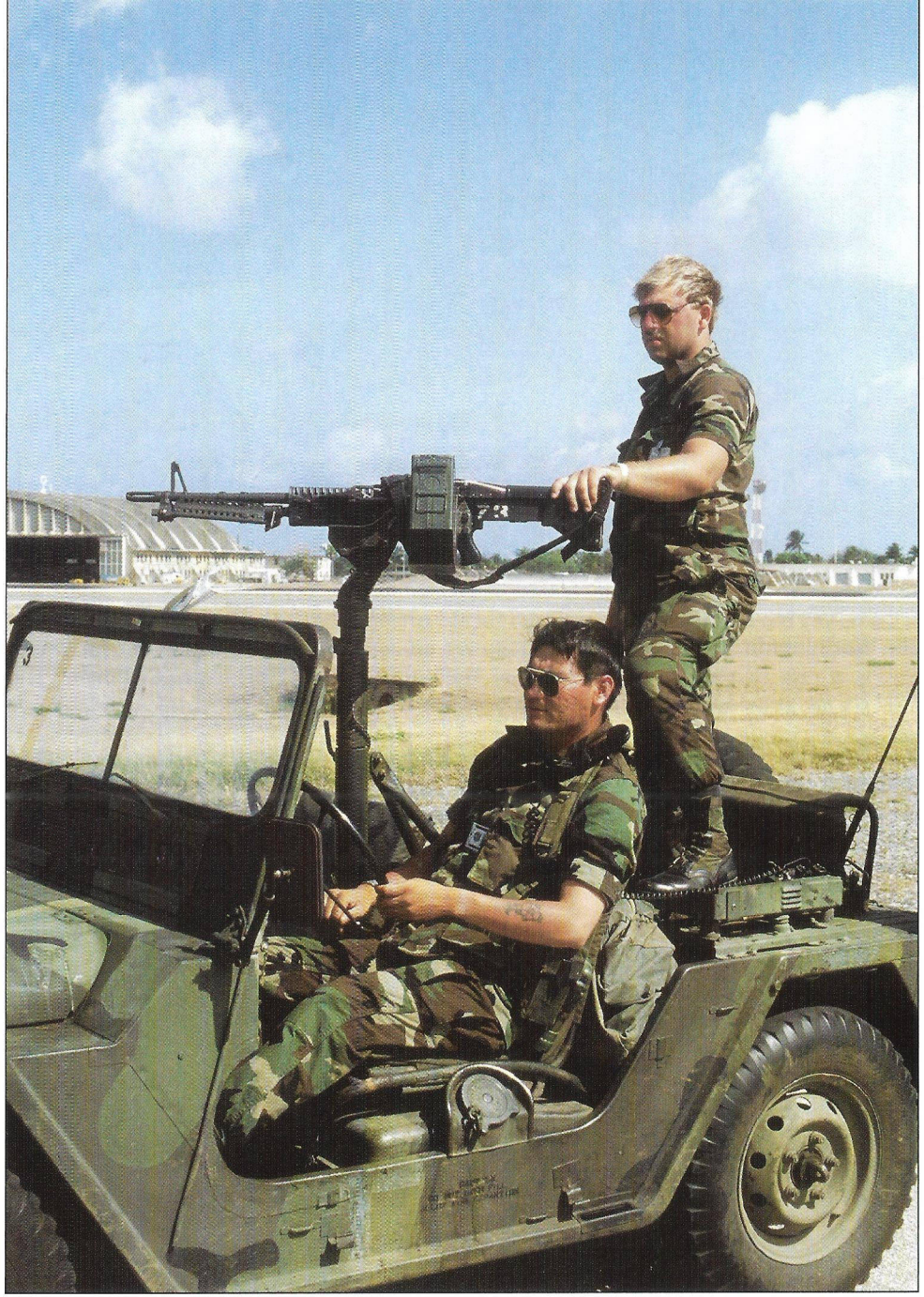
Two MUTTS are parked alongside a M578 Light Recovery Vehicle, an M1008 CUCV truck and an M792 Gama Goat field ambulance at a mobile service center during a force-on-force rotation at the National Training Center in 1985. (Scott Wingate)

Specialist Mike Parker talks to Lt. Michael Martin at a laager site before an OPFOR offensive mission at the National Training Center in Fort Irwin, California in 1984. Due to the extreme desert conditions, windshields and canvas roofs were removed and replaced with a wooden rock deflector. (Jim Worthington)

PFC Geoff Cottrell rests after being coated in dust while following the 1st Motorized Rifle Battalion (OPFOR) across a dry lake at the National Training Center in 1985. The vehicle features an AUX (auxiliary) speaker to monitor battalion radio traffic on a PRC-75 radio. Water coolers were required equipment on each 6/31st Infantry vehicle in the Mojave Desert. (Jim Worthington)

In April 1984, U.S. Air Force security policemen sit in an M151A1 near an F-16 at Ramey Air Base, Puerto Rico, during Operation Ocean Venture '84. A siren is mounted on the left front fender, and an empty radio rack is behind the driver's seat. (Department of Defense)

This Military Police M151A1, towing a M416 ¼-ton trailer, is painted in the four-color MERDC desert camouflage scheme and sports a red warning light on the cowl/windshield. It was photographed driving past a wash rack area during the joint US/South Korean Exercise TEAM SPIRIT '87. (Department of Defense)



U.S. Air Force Security Policemen, including one manning an M60 machine gun, maintain a vigilant posture in a MUTT on a tarmac at Ramey Air Base during Operation Ocean Venture '84. Note how the braces are bolted to a tab on the machine gun mount. (Department of Defense)

Work continued to improve the stability of the vehicles, resulting in the M151A1E1, shown here. This vehicle replaced the swing arm rear suspension with a trailing arm suspension. Once standardized, vehicles produced in the new configuration were designated M151A2. That the lower leading edge of the front fender forms a straight line parallel to the ground is indicative of a body made by Budd. Budd furnished MUTT bodies to Ford. (Kevin Emdee collection)

The prototype of the M151A2 was photographed at Fort Knox, Kentucky. In addition to the redesigned rear suspension, this model featured enlarged front composite lights, mounted in prominent recesses in the fronts of the front fenders. "MOGAS" is stenciled in white on the fuel filler cap. (Kevin Emdee collection)

On the M151A2, redesigned and enlarged tail composite light assemblies replaced the earlier units. Stick-on reflector panels are on the rear corners of the prototype vehicle and spare-tire wheel. The large clear-plastic window at the rear of the canvas top was an M151A2 improvement. (Kevin Emdee collection)

Ford engineers devised a new rear suspension which addressed both the issue of handling, as well as featuring a high degree of parts commonality. The new vehicle was initially designated the M151A1E1, but soon came to be the M151A2.

Limited Production (LP) type classification for 24,503 redesigned MUTTs was approved on 25 July 1969. The M151A2 included many significant changes in the M151 series design. Rather than the swing arm type rear suspension previously used, a semitrailing arm type of rear suspension was fitted. This allowed the unladen vehicle to 'feel' more like a standard motor car in turns, and thus it was hoped that this would reduce the number of roll-over accidents.

The first M151A2, which like all the other Ford-built MUTTs, used a single number for both registration number and manufacturer's serial number, was delivered in February 1970. The bodies for these vehicles were made by Budd and a Budd ID-plate was attached to the body tub above the cowl.

Also introduced on the M151A2 were a number of other improvements including deep-dish steering wheels, larger "composite" type marker and tail lights, electric windshield wipers and a mechanical (as opposed to the earlier electrical) fuel pump, as well as a passenger grab handle. A one-piece clear plastic rear window was added to the canvas top to improve rear vision.

The next contract for the MUTT was for even more M151A2 models. This contract, DAAE07-71-C-0103, awarded 16 February 1971, was issued to the General Products Division of the Jeep Corporation. This firm, Jeep Corporation, was created in February 1970 when American Motors purchased Kaiser-Jeep – which itself had been formed in March 1963 through a combination of the Kaiser-Frazer Corporation and Willys-Overland Motors.

However, between the time the M151A2 contract was awarded and production could begin, the name of the firm changed again. On 31 March 1971, the government products division – General Products Division – was spun off from the Jeep Corporation, becoming AM General. AM General's principal manufacturing facility at this time was the former Studebaker military truck plant on Chippewa Avenue in South Bend, Indiana.

AM General produced the M151A2 from 1972 through 1985, with a short production for foreign sales in 1988. All the AM General built trucks were produced in South Bend, Indiana.

Even though the new suspension reduced the tendency for roll-overs, there remained in army stocks thousands of M151 and M151A1 whose handling left much to be desired. A study was conducted toward retrofitting the A2 suspension to the older vehicle, but cost was a deterrent. Still not satisfied with the vehicle's safety, in 1987 a Roll Over Protection System (ROPS) was introduced which could be added to the M151A2 vehicles. The ROPS was not authorized for use on earlier models.

Although in most U.S. applications the M998 HMMWV "Humvee" replaced the Mutt during the mid-to-late 1990s, the Marine Corps continued to use the M151A2 as the basis for their Fast Attack Vehicle as late as 2001 – fifty years after the design was put down on paper. Although controversial, the M151 managed to serve the military in the field for a full 41 years, far longer than its predecessors, the MB/GPW, M38 and M38A1.

Once standardized, the M151A2 went on to be produced by Ford as well as AM General. The scooped front fenders are the defining visual identifier for the A2 vehicles, although several other changes were made as well. The inverted V-shaped embossment in the lower edge of the front fender between the grille and composite light is characteristic of AM General-built M151A2s. (TACOM LCMC History Office)

Photographed upon delivery to Aberdeen Proving Ground, this Ford M151A2 has a canvas top and seat covers. Later production included vinyl versions of these components. (National Archives)

A production M151A2 photographed at Fort Knox displays several identifying characteristics of that model, including the deep-dish steering wheel and large window in the canvas top. (Kevin Emdee collection)

The M151A2 dispensed with circular, screw-on reflectors at the rear of the vehicle, substituting instead stick-on reflectors. The spare-wheel reflector had a rounded shape with straight bottom. (Kevin Emdee collection)

The design of the rear curtain of the M151A2's canvas top and its composite tail lights are shown. The dip in the bottom center of the curtain was designed to cover the rear cutout in the body. (Kevin Emdee collection)

During REFORGER 77 members of the 121st Signal Battalion perform routine maintenance on a M151A2. The reinforcement of the underside of the hood is plainly visible. (U.S. Army Quartermaster Museum)

The engines of the M151 family of vehicles held five quarts of oil. Visible at the right in this photo is the slave receptacle, mounted on the right hand side cowl. (U.S. Army Quartermaster Museum)

The M151A2, shown here, used ½-inch wheel studs, whereas the M151 and M151A1, used 7/16 studs, with a corresponding different in lug nut size. The S-shaped lug wrench with different sized sockets on each end, was standard issue with the M151A2, allowing it also to be used to change tires on the M416 trailer. (U.S. Army Quartermaster Museum)

This M151A2 is missing its windshield wiper arms and rear view mirror. The spare tire is stowed in the cargo area as well. In the left background is a line of M220 shop van trucks. (Jim Gilmore collection)

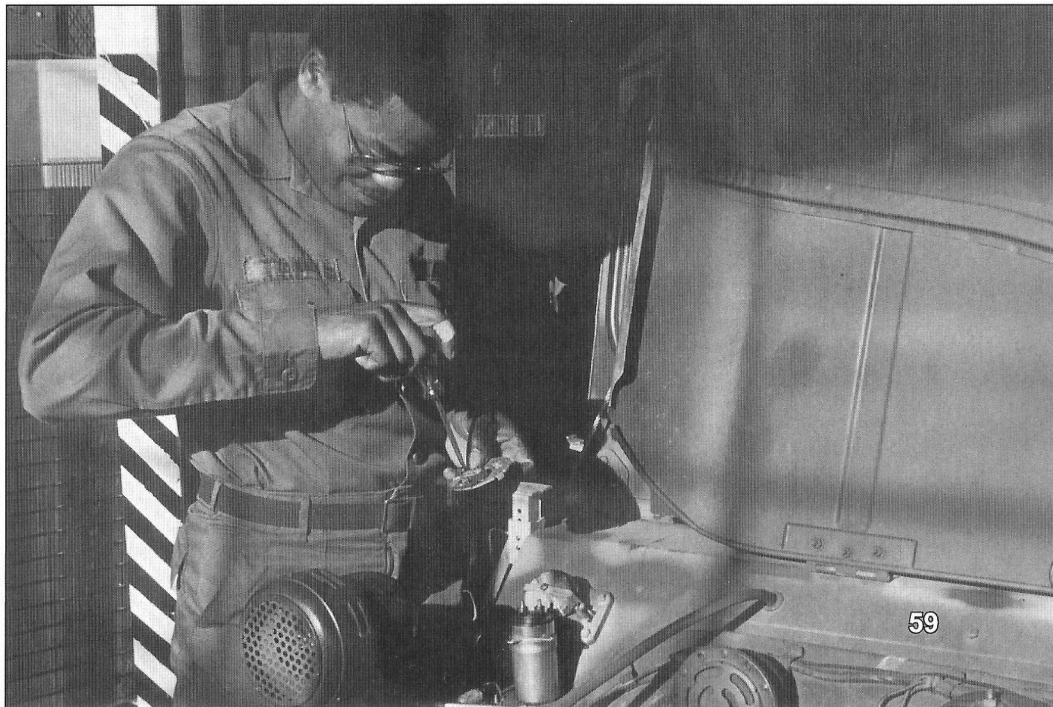
M151A2 vehicles ride railway Auto-Rack cars through the Texas countryside as the 2nd Armored Division moves to Fort Irwin, 12 April 1977. The balance of the division is also involved in the movement, with larger vehicles riding on single-level cars. (U.S. Army Quartermaster Museum)

M151A2 MUTTs with M416 trailers are lashed to the deck of a freighter, preparing to move to Germany as part of the REFORGER 77 exercise. The harsh salt environment of such crossings is hard on any motor vehicle, but especially those like the M151 with unibody construction. U.S. Army Quartermaster Museum.

This group of M151A2s (and other vehicles) was photographed during maneuvers. The leftmost M151A2 has been equipped with field-fabricated doors made of plywood, while the vehicle at far right relies upon the standard soft top and doors for weather protection. (U.S. Army Quartermaster Museum)

A mechanic services an M151A2 in a maintenance shop. An unusual feature of this vehicle is the extra light installed on the windshield frame. The vehicle appears to be painted in a MERDC camouflage scheme. (U.S. Army Quartermaster Museum)

The same mechanic is shown close-up replacing ignition points. The vehicle's stock horn is on the front of the firewall. On the cowl between the horn and siren is the slave receptacle cover. (U.S. Army Quartermaster Museum)



M151A2-based, radio-equipped FAC vehicles of the Wisconsin Air National Guard were photographed inside a hangar at Volk Field, Wisconsin, in April 1980. All of the vehicles have door and side-curtain kits and rolled-up grille covers installed. (Jim Gilmore collection)

A member of the 1st Scout Platoon, 19th Infantry, 25th Infantry Division, mans an M60 machine gun on a M151A2 while the driver sits at the ready. The event was Exercise Opportune Journey at Pohakuola Training Area in Hawaii in April 1984. (Department of Defense)

Spent blank cartridges fly from the receiver of the M60 machine gun fired by Specialist Fourth Class William Knowles, 1st Battalion, 19th Infantry, during Exercise Opportune Journey '84. Knowles is crouching on the cowl of an M151A2. Knowles wears a "Threat" helmet to identify him as the Opposing Force. (Department of Defense)

On 25 April 1986, an American military policeman guards a bridgehead on the Han River, South Korea, with an M60 machine gun mounted on an M151A2 during the joint US/South Korean Exercise Team Sprit '86. Details of the wire cutter are visible. (Department of Defense)

An M151A2 is debarking from a temporary bridge in South Korea during Exercise Team Spirit on 31 March 1988. It is fitted with a hardtop enclosure kit. The ropes in front of the windshield are for holding down the antennas. (Department of Defense)

Using an M151A2 loaded with sophisticated communications equipment, Lieutenant Colonel Brown, acting as an observer-controller, monitors a training exercise at the National Training Center, Fort Irwin, California, on 2 February 1987. (Department of Defense)

Troopers of the 82nd Airborne Division await embarkation on an aircraft at Pope Air Force Base for deployment to Grenada during Operation Urgent Fury, 25 October 1983. The wire cutter on front of the M151A2 has two cutting tabs instead of notches. (Department of Defense)

Members of the 325th Airborne Infantry Regiment, 82nd Airborne Division, patrol a road in Grenada in an M151A2 during Operation Urgent Fury on 25 October 1983. An unusual additional grille formed of mesh and a frame is installed. (Department of Defense)

MUTTs of the 82nd Airborne Division typically were piled high with stowed gear during Operation Urgent Fury. This example is passing a knocked-out Soviet-made BTR60 armored personnel carrier while on patrol on 25 October 1983.

American and South Korean troops secure an M151A2 assigned to the Military Police to a railroad flatcar for shipment to the port at Pusan at the conclusion of the joint US/ South Korean Exercise Team Spriit '87, 15 April 1987. (Department of Defense)

Staff Sergeant James Mulligan (bottom center) of the 25th Transportation Company directs the unloading of M151A2s from a flatcar during Team Spirit '87 on 27 April 1987. A trailer in matching camouflage is hitched to the first MUTT. (Department of Defense)

A train loaded with M151 light utility vehicles and trailers with canvas covers departs for Pusan, following Exercise Team Spirit '87. Other than the M151A2s at the far left and far right, the MUTTs are early types with straight front fenders. (Department of Defense)

An observer-controller transmits a voice message over a field radio mounted in the back of an M151A2 during an exercise at the National Training Center in late March 1988. The radio equipment and antennas had become more sophisticated since the Vietnam War. (Department of Defense)

Members of the 1st Battalion, 39th Field Artillery, extricate a MUTT with two radio antenna mounts from its air-drop platform during an XVIII Airborne Corps emergency deployment readiness exercise at Fort Stewart, Georgia, on 15 June 1987. (Department of Defense)

M151A2s of the 82nd Airborne Division disembark from a utility landing craft at Vieques Island, Puerto Rico, during Operation Ocean on 20 April 1984. To the rear is an M35A2 2 ½-ton truck. Note the extra grille cover on the lead MUTT. (Department of Defense)

U.S. Navy personnel aboard a M151A2, with an M60 machine gun on the pedestal mount, and a second M60 on what appears to be a dashboard mount, participate in Operation URGENT FURY, the 1983 US-led invasion of Grenada. (Department of Defense)

U.S. Marines patrol the streets of downtown Beirut in an M151A2 on 1 April 1983. The air intake and the tail pipe of the deepwater fording kit are visible. A webbing safety strap is attached to the body of the vehicle next to the front passenger. (Department of Defense)

In another photo taken on 1 April 1983, the same USMC M151A2 as in the preceding photo makes its way along a street during a patrol in Beirut. The Marine in the left rear of the vehicle is on guard with his rifle, anticipating sudden sniper fire. (Department of Defense)

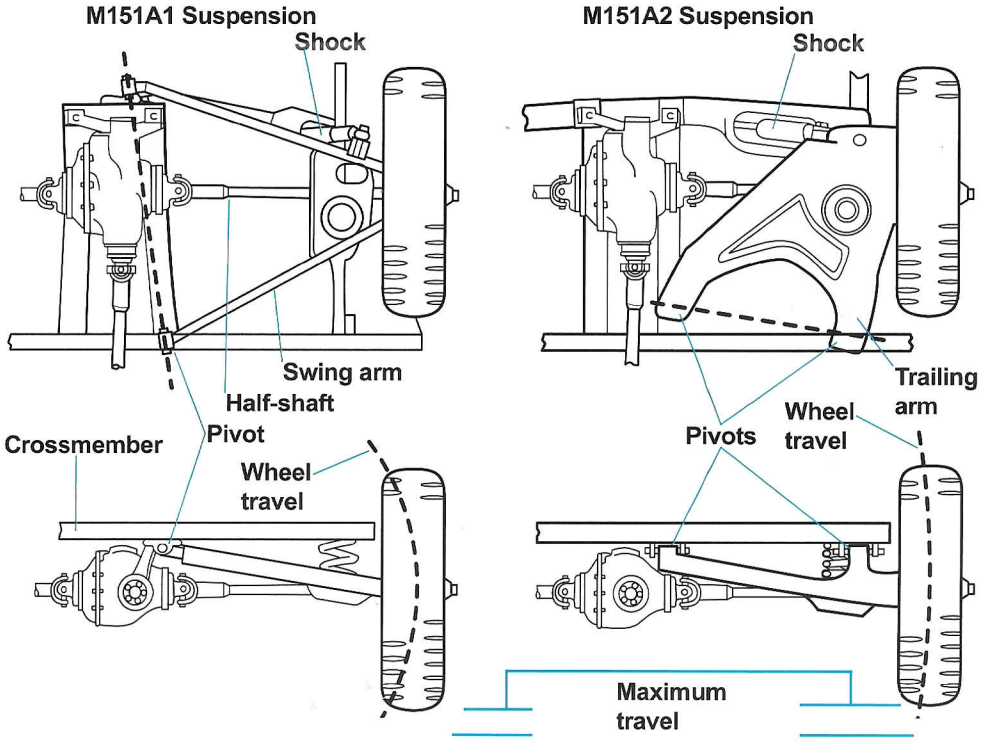
Members of the 317th Combat Control Team prepare to establish a drop zone during Exercise Cabanas in Honduras on 3 March 1986. Their M151A2 is equipped with communications equipment and a hardtop kit. In the foreground is an all-terrain vehicle. (Department of Defense)

A MUTT towing a trailer disembarks from a utility landing craft during Exercise Solid Shield '85 at Camp Lejeune, North Carolina, on 30 April 1985. Canvas tops are installed on the MUTT and the trailer, and the air intake and tail pipe of the fording kit are visible. (Department of Defense)

Sergeant Robert Perez of the 3666th Maintenance Company services the clutch on the engine of an M151A2 at Camp Humphreys, South Korea, in April 1987. The radiator was normally attached to the engine unless it was necessary to remove it for maintenance. (Department of Defense)

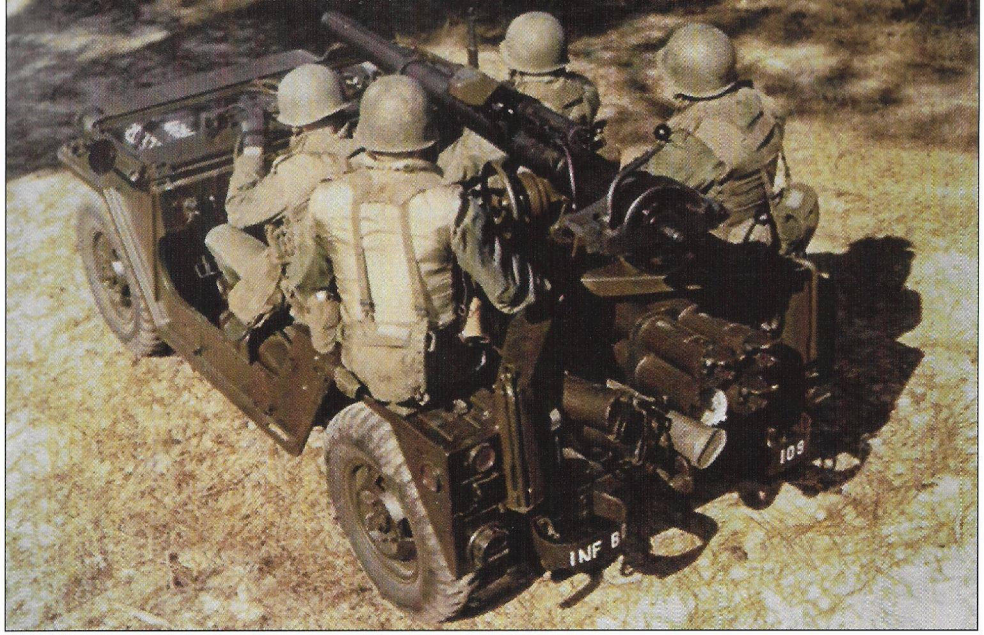
The two soldiers to the right are checking the dipstick of an M151A2, as indicated by the fender scooped for the composite headlight. The vehicle is painted in a four-color MERDC camouflage scheme. The deep-dished steering wheel introduced with the M151A2 is visible. (Department of Defense)

Capt. Thomas Hagen and Cpl. Geoff Cottrell of A Company, 6th Battalion, 31st Infantry Division and the 1st Motorized Rifle Battalion Opposing Force (OPFOR) check on a BMP (visually modified M551A1 Sheridan ARAAV) during a force-on-force exercise at the National Training Center at Fort Irwin, Calif. in November 1986. This M151A2 features a wire-catch bar to avoid night decapitations from concertina wire in combat blackout conditions. (Geoff Cottrell collection)



MUTT with Recoilless Rifle

The MUTT was also adapted to mount the M40A1 106mm Recoilless Rifle. This version, belonging to the Third Battalion, 14th Infantry, 25th Infantry Division, was first known as the M151A1C, shown here, and when based on the M151A2 chassis, the vehicle was designated the M825. (National Archives)

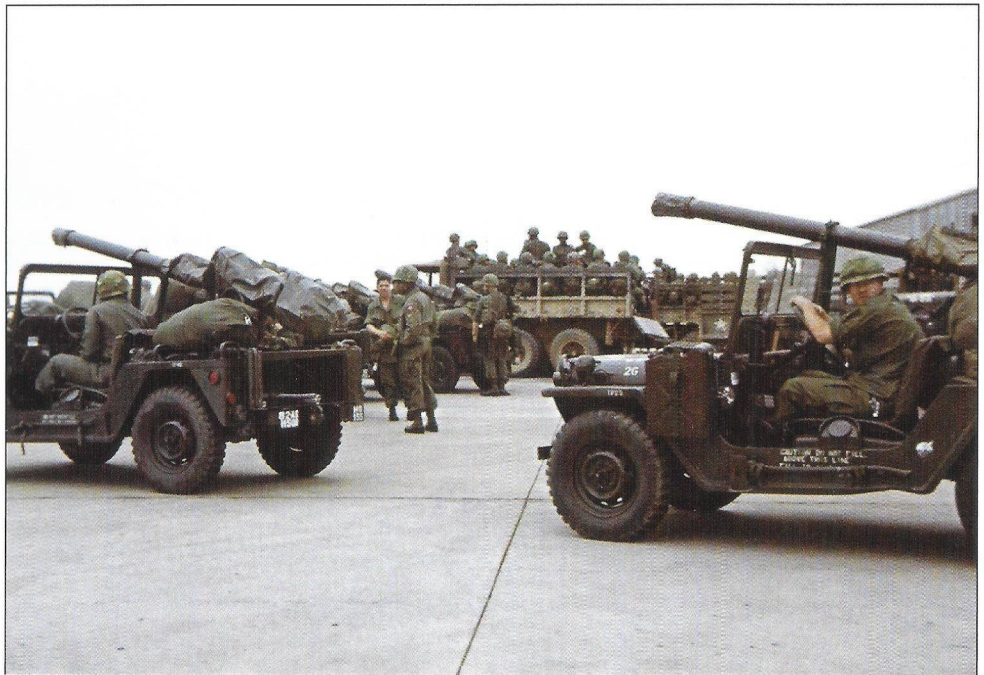


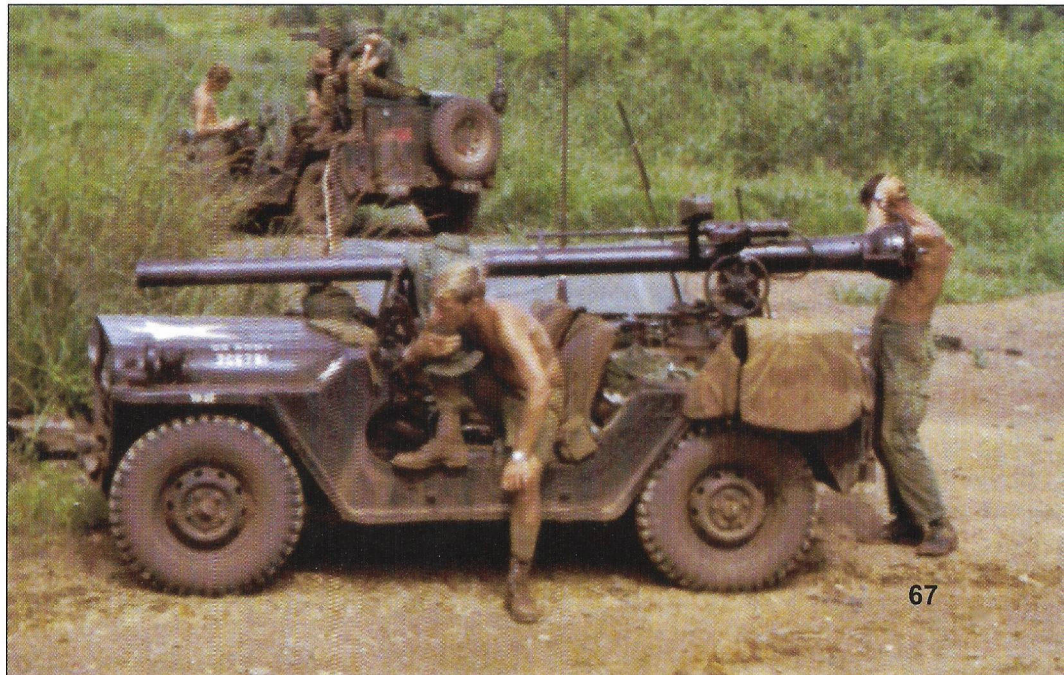
The M40A1 106mm recoilless rifle was attached to the M79 mount and was fitted with an M8C .50-caliber spotting rifle on top. The M151A1C and M825 carried a crew of four, with single seats for the gunner and the loader and space for ammunition at the rear. (TACOM LCMC History Office)

A loader inserts a round into the recoilless rifle on an M151A1C. The curved operating lever of the breechblock is above the rear of the weapon. The tube on top of the recoilless rifle between the two men to the left is the .50-caliber spotting rifle. (Steve Rausch)

Several M151A1Cs of the 82nd Airborne Division are preparing to embark on a deployment. The vehicle in the foreground has an old-style metal liquid container strapped to its bracket. Axes are strapped to the vehicle bodies next to the drivers. (National Archives)

Armed with a recoilless rifle, an M151AC MUTT of a cavalry unit, possibly D-14th Cav, halts in the field in Vietnam in mid-1970. The MUTT in the background appears to have an elevated rear seating area for the M60 MG operator. Though conceived as an antitank weapon, in Vietnam recoilless rifles were most often used in antipersonnel roles, firing rounds filled with flechettes. (Stan Sohre C-Btry 5/2nd ADA)





The crew of a 106mm-armed M151A1C drills at Fort Ord in 1970. Notice the stowage arrangement for the 106mm rounds at the rear of the vehicle, and the radio set mounted on the right rear fender. (National Archives)

An M151A1C, indicated by the straight front edges of the fenders, is well camouflaged with local foliage. The CDCEC marking on the front fender identifies the vehicle as assigned to the U.S. Army Combat Developments Command Experimental Command. (National Archives)

Because the tail gate was removed from the M825, the spare tire was moved from the rear of the body to a bracket on the side of the body next to the front passenger's seat, and the liquid container was similarly moved from the rear to the left side of the cowl. (Ordnance Museum)

A two-position, pedestal-type travel lock was installed on the M151A1C and M825 to the rear of the center of the dash board. It could be adjusted in height to allow the recoilless rifle to rest on it with the windshield lowered or raised. (Ordnance Museum)

Mounted atop the 106mm recoilless rifle and used for roughly zeroing-in that weapon on target, the spotting rifle fired a round with a similar trajectory to that of the 106mm and emitted a flash of light and a puff of smoke when it struck a target. (David Haugh, via WarWheels.net)

The two-position travel lock is visible to the rear of the windshield. This M825 was fitted with a radio set with a long whip antenna. The muzzle and the rear of the 106mm recoilless rifle have covers to keep out moisture and dust. (Ordnance Museum)

A member of the Combat Support Company, 2nd Battalion, 187th Infantry, loads an antipersonnel-tracer round into the M40A2 106 mm recoilless rifle on a MUTT during a test at the Army Tropic Test Center in Panama in 1984. (Department of Defense)

The same crew prepares to fire the 106mm recoilless rifle. In the U.S. service, the TOW missile had rendered the 106mm recoilless rifle obsolete by the mid-1980s, but the weapon remained in use by many U.S. client states as a low-budget antitank weapon. (Department of Defense)

MUTT with TOW

Hughes Aircraft developed and Raytheon manufactured the BGM-71 series of tube-launched, optically-tracked, wire-guided (TOW) anti-tank missiles, which entered the U.S. service in 1970. When mounted on the MUTT, it offered a lightweight, mobile, and effective antitank system. (National Archives)

BGM-71 TOW launchers were installed on M151A2s using a pedestal mount. Not installed here is the optical sight. The horizontal rails on the right side of the cab supported racks for stowing two TOW missiles in their sealed tubes. The spare tire remained on the right side of the cab, as on the recoilless rifle–equipped MUTTs. (Jim Gilmore collection)

A TOW missile has is being fired from its launcher on an M151A2, with the nose of the missile just emerging from the front of the launcher. The occasion was a firing exercise by the Marines' 2nd TOW Company, 2nd Tank Battalion, 2nd Marine Division, at Camp LeJeune, North Carolina, on 10 January 1977. (USMC)

The missile has completely exited the launcher in this photo. The gunner kept the target in the crosshairs of his sight, which included an optical sensor that continuously monitored the position of the missile with reference to the line of sight and adjusted its trajectory through two communications wires that trailed from the missile. (USMC)

A member of Company A, 1st Battalion, 38th Infantry, 2nd Infantry Division, is behind the wheel of a TOW-equipped MUTT during the joint U.S. and South Korean Exercise Team Spirit '86. A plastic liquid container is in the holder adjacent to the driver. (Department of Defense)

A TOW missile has just been fired from an M151A2 of the 1st Battalion, 21st Infantry, 25th Infantry Division, during Exercise Team Spirit '84. The gunner sat to the left of the launcher. Another TOW missile is in the rack next to the driver's seat. (Department of Defense)

MUTTs of the 32nd Separate Infantry Brigade (Mechanized), Wisconsin National Guard, are prepared for shipment on flatcars at Grafenworhr, Germany, during Exercise Reforger '86. The second vehicle is a TOW-missile version with the launcher dismounted. (Department of Defense)

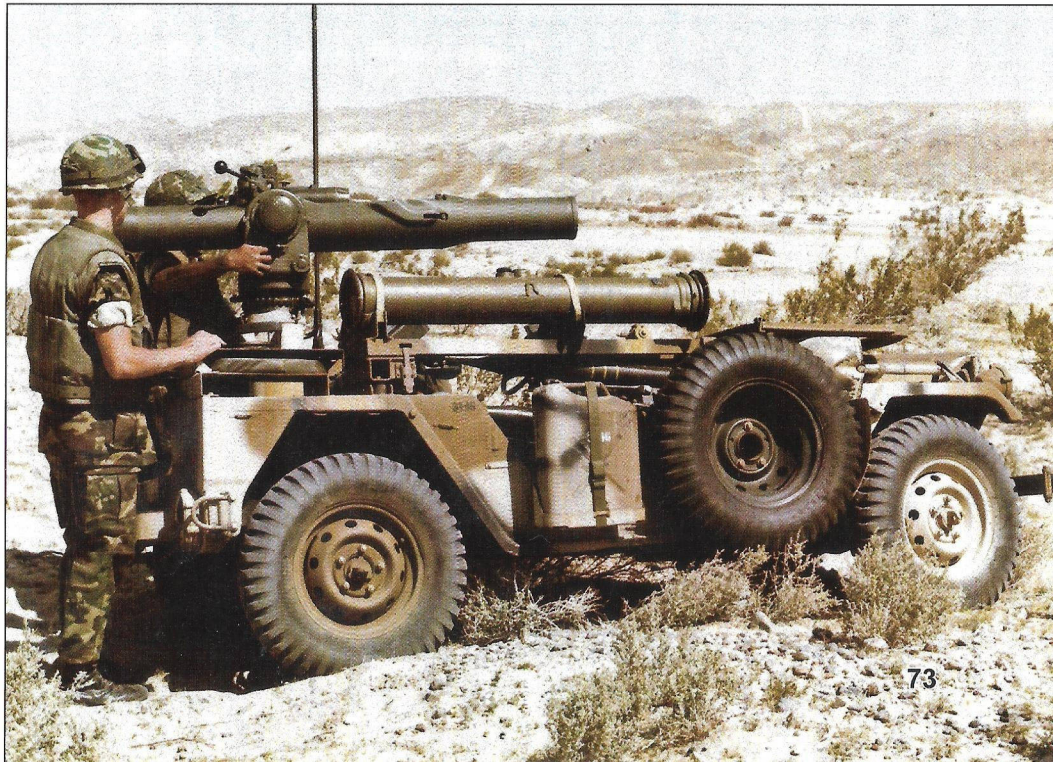
A TOW missile crew on a MUTT stands at the ready along a highway during Exercise Team Spirit '86 in South Korea. The BGM-71 TOW missile had an operational range of over two miles: enough to cover the visible portion of the highway. (Department of Defense)

The crew of a MUTT-mounted TOW, from Company B, 1st Battalion, 35th Infantry, 2nd Infantry Division, takes part in Team Spirit '86. The gunner is peering through the sight, and the rear of the launcher tube is to his right. (Department of Defense)

MUTTs of the 1st Battalion, 21st Infantry, 25th Infantry Division, leave a defensive perimeter at a school yard during Exercise Team Spirit '86. A TOW missile launcher and missile stowage rack are visible on the lead vehicle. (Department of Defense)

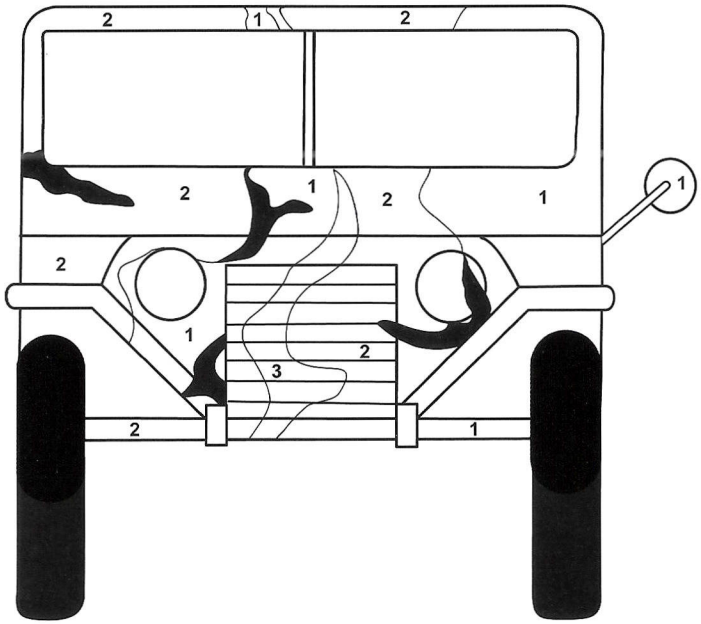
A Marine TOW gunner looks through the sight of the launcher on an M151 at Twentynine Palms, California, on 1 January 1988. Through the 1970s, TOW missiles were successively upgraded to improve their range and armor penetration. (Department of Defense)

The MUTT with the TOW missile system was arguably one of the most lethal quarter-ton 4x4 vehicles with the singular exception of the atomic-armed Davy Crockett system. The TOW is capable of knocking out many heavily armored adversaries.

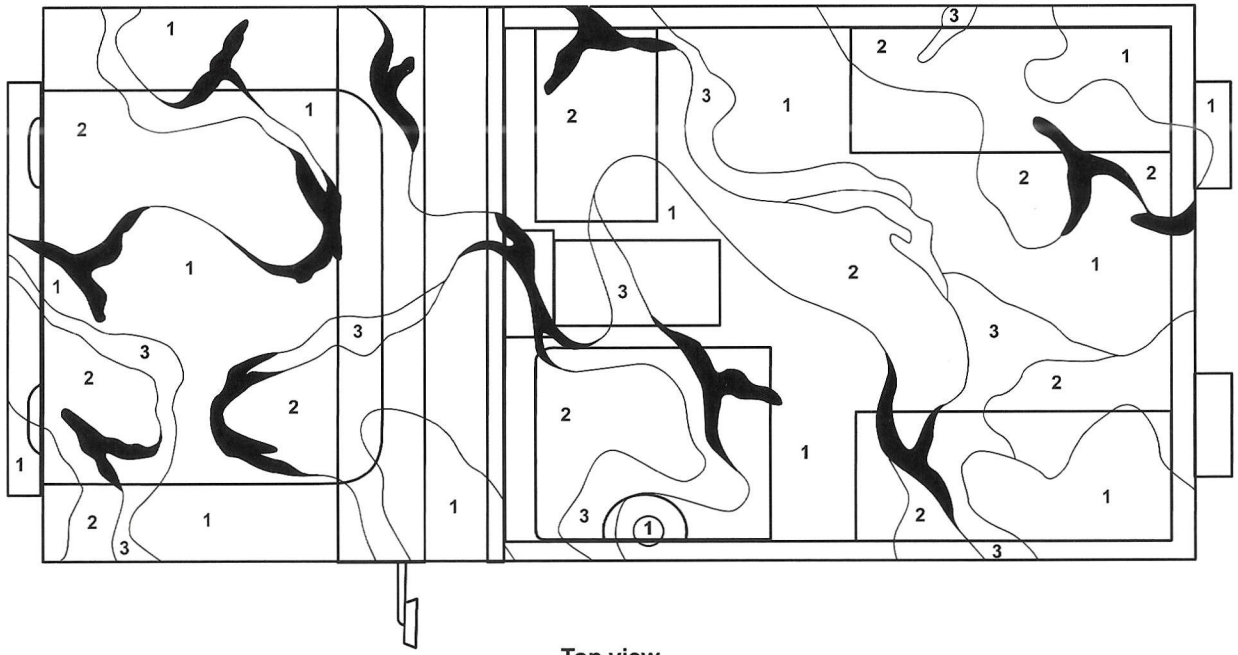


MERDC Color Distribution FS595A

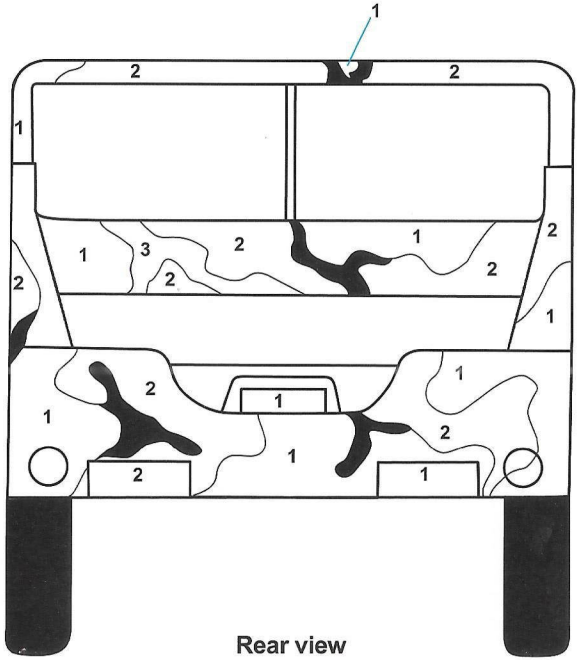
Condition	45%	45%	5%	5%
Winter US & Europe verdant	Forest Green 34079	Field Drab 30118	Sand 30277	Black 37038
Snow – temperate w/trees & shrubs	Forest Green 34079	White 37875	Sand 30277	Black 37038
Snow – temperate w/open terrain	White 37875	Field Drab 30118	Sand 30277	Black 37038
Summer US & Europe – verdant	Forest Green 34079	Light Green 34151	Sand 30277	Black 37038
Tropics – verdant	Forest Green 34079	Dark Green 34102	Lt Green 34151	Black 37038
Gray desert	Sand 30277	Field Drab 30118	Earth Yellow 30257	Black 37038
Red desert	Earth Red 30117	Earth Yellow 30257	Sand 30277	Black 37038
Winter Arctic	White 37875	White 37875	White 37875	White 37875



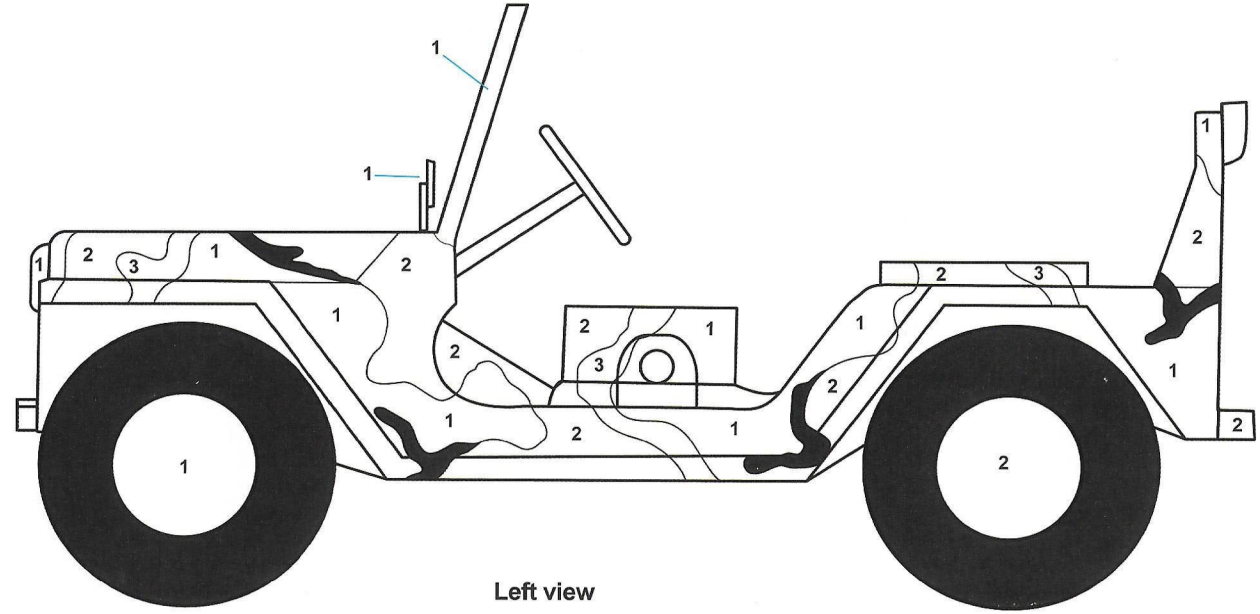
Front view



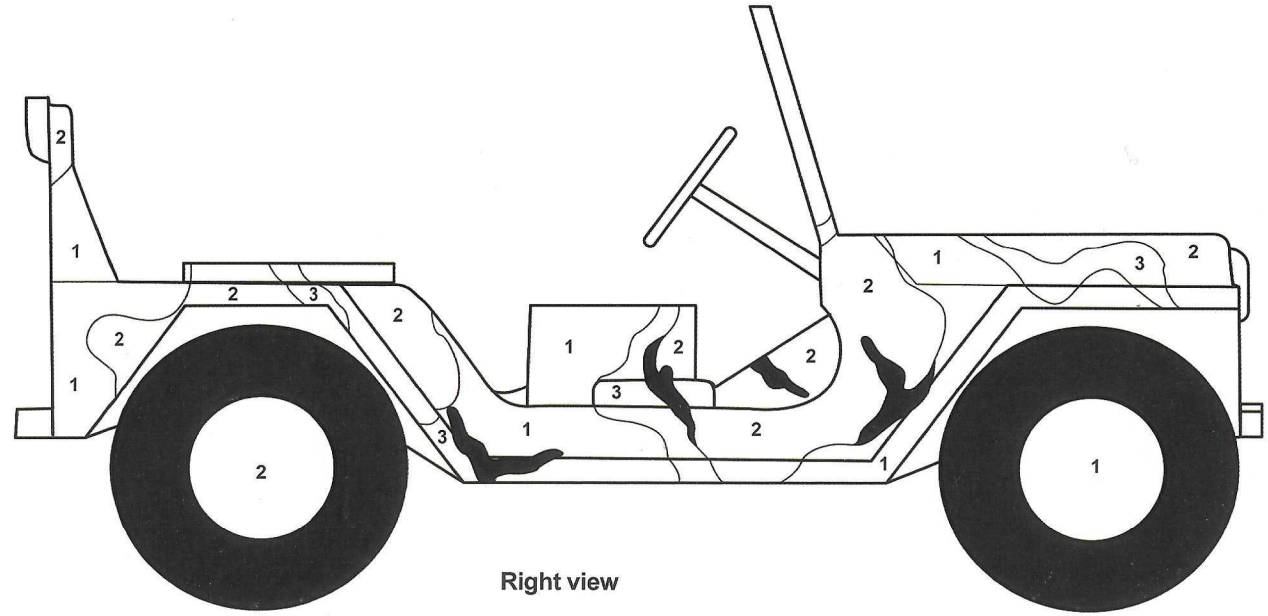
Top view



Rear view



Left view



Right view

Ambulance

An ambulance version, designated the Truck, Ambulance, Front Line, ¼-ton, 4x4, M718, was developed based on the M151A1 chassis and went into production by AM General in 1966. When based on the M151A2 chassis, it was designated the M718A1. This vehicle is an M718A1, distinguished by the scooped fenders. (Warehouse Publications)

The M718-family ambulances could accommodate, in addition to the driver and a medic, three ambulatory wounded or two litter patients and one ambulatory one. In an emergency, three litter patients could be transported. (Warehouse Publications)

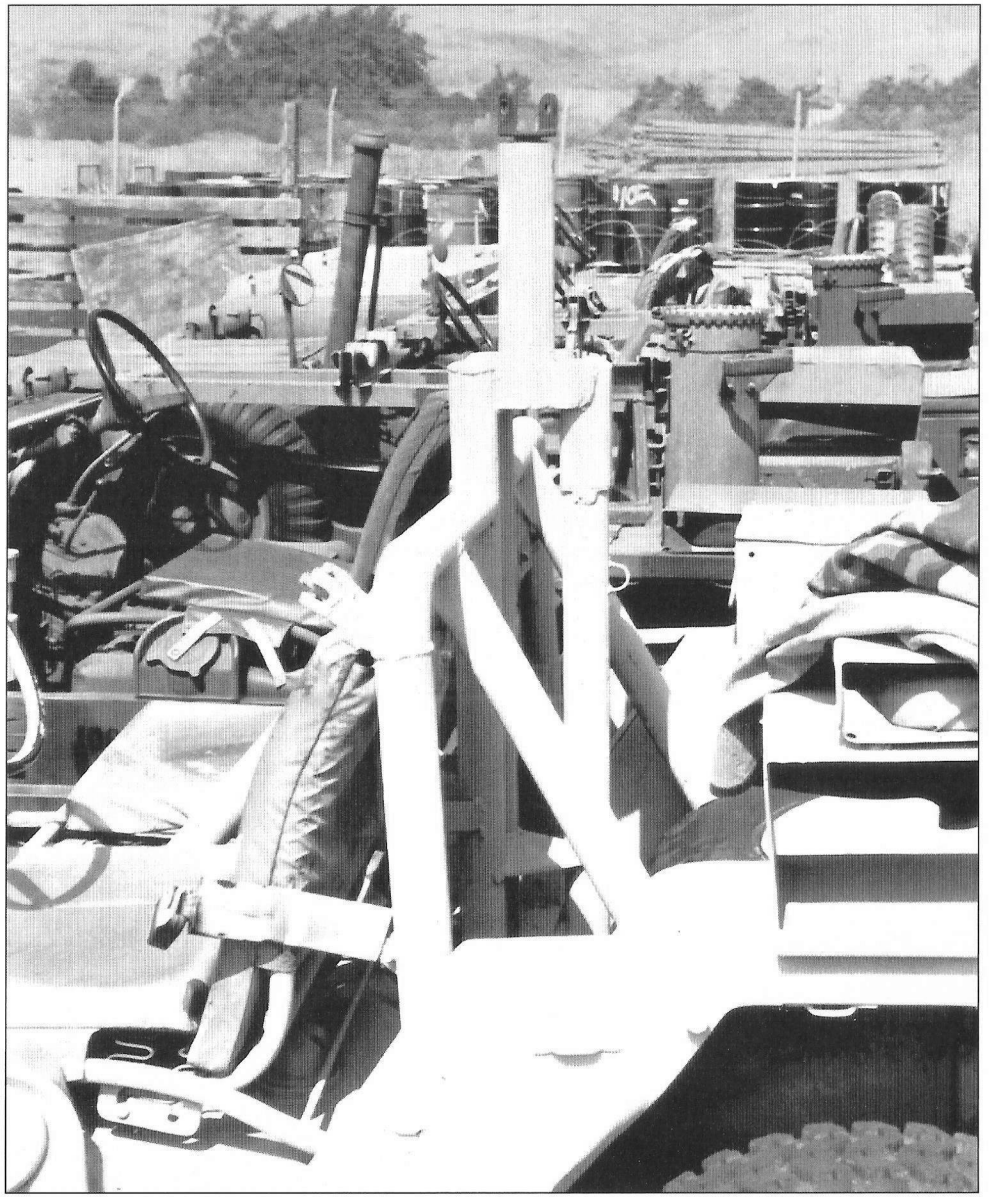
This Royal Thai Army Volunteer Force team is seen in 1969 with an M178 ambulance. The Thai unit is undergoing training in preparation for deployment to Vietnam. (National Archives)

A GI sits in the passenger's seat of a MUTT ambulance. The red cross is made from two rectangles stitched to the canvas side curtain; the horizontal piece overlaps the vertical one. At the rear of the body above the mounting eye is the bracket for the spare tire. (Mike Weaver)

When the introduction of new suspension components resulted in the creation of the M151A2 model utility vehicle, similar changes were made to the ambulance variant, resulting in the M718A1 shown here. The M718 and M718A1 ambulances were 10 inches longer and 5½ inches taller than the stock utility vehicles.

M151A2 Fast Attack Vehicle

The conversion known as the Fast Attack Vehicle was one of the final U.S. military uses of the MUTT. The FAV was extensively modified in the areas of stowage, armament, roll-over protection, tires and wheels, and radiator protection. The M151A2 FAVs were used in USMC, Navy SEAL, and 82nd Airborne operations in the 1990s, and reportedly their users referred to them at the time as "Super Jeeps." (Jim Gilmore collection)



A welded tubular mount for a machine gun is viewed from the left side in an M151A2 FAV. These vehicles carried radios and ammunition boxes behind the front seats. In the background are several TOW MUTTs with the launcher tubes removed. So successful were the FAVs that many were retained in long-term storage well after the rest of the series had been retired. (Jim Gilmore collection)

A later FAV with welded roll bar and machine gun pedestal is painted in a light color, with the paint on the civilian-type wheels oversprayed onto the oversized, non-military standard tires. The earliest M151A2 FAVs reportedly were painted matte black. There was a great variety in the design of the FAVs because they were modified unit-by-unit with materials on hand. (Jim Gilmore collection)

U.S. Air Force Major General William S. Hinton Jr. strides away from an M151A2 Fast Attack Vehicle (FAV) in Albania in 1999. The USMC developed numerous configurations of the FAV. This one has a .50-caliber machine gun in a ring mount supported by threaded pipes and elbows. Later FAVs used welded frames. The Marine FAV M151 vehicles were the last MUTTs to be used by the U.S. military. (Department of Defense)

The same FAV MUTT is viewed from the front, showing the side-by-side diagonal braces from the machine gun pedestal to the roll bar. A modified louvered grille – in this case adorned by a smiley face – is fitted to the front of the vehicle. The driver's and rear seats are missing their cushions, and the exposed springs in the seat backs are visible. (Jim Gilmore collection)

This M151A2 FAV (alternately called a FAV MUTT) has a narrow roll bar to the front of the dash board and, behind the front seats, a pedestal mount with diagonal braces to the roll bar. The frame for the passenger's seat has been placed on the rear wheel well, presumably to allow workers access to the batteries, which are beneath the seat's normal location. (Jim Gilmore collection)

Marines of Company A, 1st Battalion, 8th Regiment, 24th Marine Amphibious Unit, prepare to move out in their M151A2, equipped with a deepwater fording kit, during a multinational peacekeeping operation in Beirut, Lebanon, on 7 November 1983. (Department of Defense)

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